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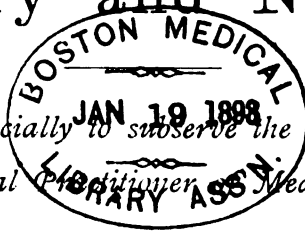
THE
Alienist and Neurologist

A QUARTERLY JOURNAL

—OF—

SCIENTIFIC, CLINICAL AND FORENSIC
Psychiatry and Neurology.

*Intended especially to subserve the wants of the
General Practitioner and Physician in Medicine.*



"Quantam ego quidem video motus morborum fere omnes a motibus in systemate nervorum
ita pendent, ut morbi fere omnes quodammodo Nervosi dici queant."—*Cullen's Nosology: Book
II., p. 181.—Edinburgh Ed. 1780.*

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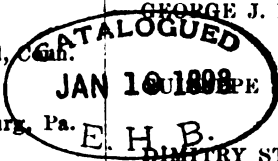
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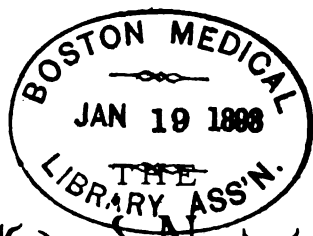
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Alienist and Neurologist.

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No. 1.

ORIGINAL CONTRIBUTIONS.

Rudimental Impulsive Paranoia of Neuræsthenic Origin.*

By PROF. ENRICO MORSELLI, Turin.

AMONG the cases of rudimental paranoia observed by me, now amounting to thirteen, I here publish one pertaining to its most rare, or least known form, that is to say, the form of impulsive fixed ideas, intending to treat in a subsequent article of the other cases of simple fixed ideas, which belong to a form more frequently met with in psychiatric practice, though still obscure as regards their pathogenesis.

I do not intend to give the history of those singular psychopathies which were first by Arndt collected into a simple group, under the name of "Rudimentary Paranoia," as our lamented Buccola and Tamburini and Cantarano have treated of them at length, describing their symptoms, investigating their neurological character and in part determining their etiology. I shall have an opportunity for resuming the subject and more clearly stating my ideas respecting the pathogenesis of this psychopathy; therefore I here restrict myself to a succinct report of a case of very rare occurrence in private practice and, indeed, not often met with in insane asylums. In truth,

* Translated by JOSEPH WORKMAN, M. D., of Toronto, Canada, from the *Rivista Sperimentale*, Anno XI. Fascicolo IV., 1886.

the examples usually related by alienists belong to the form of simple fixed ideas ("Zwangsvortellungen" of the Germans), that is to say, not tending to transformation into acts, or to the form of emotive ideas with constrained acts (which might be called "Zwangsbewegungsvorstellungen"), or those with a tendency to exhibit their motorial contents, whilst clinical records of true or genuine impulsive ideas are not so numerous. The contents of the latter, which should be called, not ideas, but, rather, "motor images," are limited to the mental representation of a given act, which is generally harmful and violent—in other words, as Buccola has well written: "They incarnate themselves in tendencies to corresponding acts, so that, despite the resistance of the moral and intellectual ego, they lead to real impulsive acts (Zwangshandlungen)."

That similar alterations of the mental mechanism in which we have an admirable confirmation of the psychological doctrines of the present day on the relation between idea and movement, are fortunately rare, is shown by the solicitude of alienists to report cases truly typical of the malady. It is certain that in psychiatric literature examples of the so-called "impulsive monomanias" or the "instinctive," are abundant, from the time of Mare onward; but we must confess that almost all these observations are in fault in the clinical interpretation of the predominant phenomenon, which is, in reality, the impulsive idea of a certain morbid act. Obstinate and tenacious representations of any act whatever, especially if of a violent and destructive nature, may be presented in many forms of insanity, totally diverse, particularly in melancholia; nor am I far from the belief that in some cases we have true epileptic accesses which are purely psychical, with an ideative or representative aura. And exactly here resides the difficulty, for in order to establish the diagnosis of a true "impulsive rudimental paranoia," at least according to the clinical conception which I have formed of it, we

must accurately eliminate not only every primitive and fundamental alteration of the sentiments, which is in practice more difficult than may be believed, but it is further necessary that the prevailing idea shall have a representative constituency exclusively relating to the motility, back to its first origin and its first implantment in consciousness. Now, in not a few of the examples ascribed to the psychopathy in question, it appears to me that exactly these two essential characters are wanting; nor can we profit much from the old literature when alienists attributed but little importance to our distinctions and especially when the historical and chronological evolution of the morbid phenomena was regarded as altogether of secondary importance. At the present day we know, on the contrary, that the development of psychopathies takes place in very different ways and that their ultimate phase, as that which falls most frequently under the observance of the specialist, presents surprising analogies between one case and another. Let us, therefore, eliminate from the literature of our psychopathy the cases in which there probably was a primitive and defectively-observed lesion of the tone of feeling (for the most part of a depressive nature with augmentation of the resistance in nervous conductivity), let us abstract those in which the irresistible idea of an act is the reflex central product of a morbid stimulus existing in some other part of the nervous system (for example, in the dysphrenia neuralgica of Schüle and in hysteria). Let us put into quarantine those examples related by authors in which there undoubtedly existed concomitant and well-defined alterations of the entire mental mechanism (I may here cite the constrained ideas of imbeciles, of moral fools, of epileptics, etc.) and after all this subtraction the clinical facts of a true, substantial rudimentary paranoia, with impulsive ideas, will be reduced to a very small number.

I have said that in the typical form the pathognomonic symptom is the mental representation of an act which

from the intensity with which it drags on the attention, tends to its actual manifestation, but I now add that the act is always one of violence, always harmful, in contrast with the antecedents of the patient, his character, his sentiments, affections and intelligence. All our ideas have a motor element and in every movement of life we act because our ideative representations have the tendency to ingenerate certain muscular contractions—thus, it can happen that, unknown to ourselves, we accomplish very frequently during the day the same movement, or the same association of movements (a gesture, an expression of the countenance, a pronounced word, or a written one—any action whatever) without perceiving any motive for resisting the transformation of the motor elements of the corresponding ideas into true and real muscular activity. But in pathological cases, kindred to the following one which I shall relate, that which arrests the attention of the patient on the mental representation of a given action, is the absurd character of this action, its morbidity, its harmfulness, its absolute opposition to that complex of sentiments, recollections and cognoscents, by which the psychical personality of the individual has been formed. And there is yet more, for the more irresistible the motor idea becomes, or the more intense seems to the patient the tendency of so powerful a representation to assume actuality, the more conspicuous is the morbidity or harmfulness and the more strongly colored is the contrast with the whole antecedent and present mental life. It follows from this that the obsession increases in direct proportion to the unreasonableness of the idea and this idea will end in overcoming all other ideas, especially those which relate to opposite actions—that is, to movements antagonistic to the constrained ones and there will be a permanent but ineffective association for opposition, as Bain has written and this will always end with victory in favor of the most intense and active representation.

In so far then as regards the analogy between the impulsive rudimental paranoia and the ideative, it is

presented by another psychical phenomenon, that is, by the anxiety consequent on doubt, which in its turn corresponds to the contrast alluded to among the groups of antagonistic mental representations. But in the simple of ideative form the antagonism intervenes between the more or less abstract representations, that is those with motor-constituents, or also only with that most elementary motority which proceeds from our ideas, by the influence of a symbol of articulate or written speech (Stricker), whilst, in the impulsive form, the antagonism regards, instead, the extrinsic side of the represented movement. It is clear, after this, that the constraint is always more grave in the second form, inasmuch as the tendency of an idea to be transformed into an act, constitutes the principal reason of its presentment to consciousness and its entrance into the field of apperception, if that which modern psychology affirms is true, that is, that every state of consciousness tends to produce movements in the direct ratio of its intensity and that, on the contrary, every state of consciousness loses from its own intensity, in the direct ratio of the movements produced. (Ribot).

And now, in confirmation of what has here been said, I present the history of my case.

CLINICAL OBSERVATION.

A woman of twenty-six, married. Heredity and congenital neuropathic constitution excluded. Puerperal and suckling: consecutive neuræsthenia. Fixed ideas tending to transformation into harmful impulsive acts towards her own child. Rudimentary paranoia. State of anxiety with consciousness of the morbidity of impulses. Moral treatment. Recovery.

The subject is a young lady, X., of good social position, average culture, about twenty-six years of age, apparently sane, well formed and, as far as I could learn, free from hereditary antecedents.

At the age of twenty-four she married a rich merchant of T—, who, being very fond of birds, kept in his

house a great many finches, blackbirds and parrots, for which he prepared, with great care and singular patience, their food with his own hands. During the first two years of married life, the lady had every morning seen her husband thus occupied, especially in cutting into little bits, with a pair of scissors, some fresh meat, liver, tongue, tripe and other sorts, for his beloved pets. During her first pregnancy, the sight of this morning and daily occupation of her husband began to annoy her by its monotony, so that, by little and little, she could not but consider it ridiculous, that a serious man could waste his time on such trifles and she tried to persuade him to entrust the servants with the feeding; but he, having had much pleasure in it, obstinately continued, so that the lady, before and during her confinement, was every morning in her room a witness of this disagreeable operation. There was nothing remarkable in the birth or her recovery; the child was robust and pretty and the young mother concentrated on it all the affection and maternal sentiment of which she was capable. She began to suckle it herself, though she was not in a physical condition altogether fitted for it and she passed through with light-heartedness, the usual troubles of every first nursing (ragged nipples, inflamed breast, sleeplessness, etc.). At the third month the child was thriving admirably and she, as usual with mothers, was all the time around it, caressing, watching and admiring it. One morning her eye by chance fell on the scissors with which her husband prepared the food for his birds. There arose in her mind, as a lightning flash, the questioning idea, whether she could with the scissors cut also the tongue of her baby and very soon this doubt became a fear, the image of the scissors was changed from objective to subjective and the mother thought automatically, without being able to explain the cause, that she herself might commit this act. The idea instantly appeared so horrible to an affectionate mother, such as she was towards her dear creature, that she felt an instinctive

terror and she could not (so she says), but think of it again after a little time and return many times to the shuddering imagination that had so suddenly and strangely entered her mind.

The spontaneous recurrence of this idea was not long in being realized, but at the first there was required an external impression to awaken it: every time she approached the cradle of the babe, or was suckling it, gazing on its red lips and feeling its mouth fastened on the nipple of her breast, the thought came back to her, that she might cut up its tongue, if she so decided. The sight of the scissors, which her husband, ignorant of all, continued to use and to forget, here and there on the articles of furniture, constituted the chief cause of the awaking of the impulsive idea: the moment her eyes fell on this instrument, the image improvisedly and involuntarily entered consciousness, always breaking the thread of her thoughts and her discourse, whatever these might be and it ended by taking full command of her mind. The doubt, at first expressed under an interrogative form and oscillating between two opposite solutions, one which terrified her and from its absurdity was repugnant to her, constantly assumed in her a stronger tendency to an affirmative solution, that is to say, in the direction in most open opposition to maternal feeling: hence, arose an internal conflict between the fixed idea on the one side and the entire complex of her ordinary ideas and affections on the other side. At the outset the patient believed that her normal force of character would prove victorious in this conflict; that the sad emotions accompanying the idea of the horrid act would end in rendering its mental representation less vivid to her and that, when once buried under other impressions, the idea of that incipient infanticide would be forever driven away. Gifted as she was with a bright intellect and well understanding that victory consists in the reinvigoration of the other impressions of peaceful domestic life, she tried every means of distraction: outside walks, theatres, lectures,

earnest work, but all in vain, for every time that, trusting to her own energy, she approached the cradle of the babe and still more, the moment she caught sight of any pair of scissors, the tremendous idea, limpid and intensely colored, returned to her, absorbing her entire attention and provoking an instinctive and invincible feeling of anxiety, with the doubt that, sooner or later, she must yield to the impulse. The fact is remarkable, that the psychopathic state was revived most particularly when the child was taking the breast, because she was then irresistibly drawn to look at the mouth of the sucker and to figure to herself the movements of its little tongue in the act of sucking.

When this lady came to consult me, three months had elapsed since the inception of her singular malady and her condition was much aggravated. In fact, though in the first two months the representations of the act arose only from direct sensory excitations (as the sight of the baby or of its cradle, the sight of scissors or other cutting implements, etc.), the need of these impressions had, for some weeks past, been uncalled for to awaken the idea; it arose spontaneously oftener and oftener daily; it no longer allowed any repose to the poor mother; it pursued her everywhere and always. The painful emotion provoked by the image had been transformed into a real agony, accompanied by a feeling of constriction over the scrobiculus, heart palpitations, hot flashes on the head, instinctive and almost frantic demand for motor activity, insomnia and loss of appetite. All these phenomena were presented in accesses, characterized at first by the automatic rising of the idea, then by the fear of yielding to the impulse and hence the anguish of the conflict. The accesses generally ended in a profuse sweating, accompanied by a feeling of profound satisfaction from having fortunately passed through the "crisis." The patient was able to depict in lively colors the various phases of these "crises" and to the successive and quasi-fatal evolution of these phases attended

with a perfect consciousness of her own morbid state and what is yet more, with the certainty that each access would end like the others.

The objective examination of X. presented to me nothing worthy of special mention. There was not any degenerative anthropological character—she was exquisite in form, of pretty blonde type, though small in stature and abundant in development of adipose tissue. Neither were there any well-defined signs of a neuropathic constitution. There were no trophic disorders; no lesions, even trivial, of voluntary or reflex motility; no neuralgic or hysterogenous zones; no affections of the sexual organs nor any perversions of the various specific sensibilities. The only readily observable phenomena related to the vasomotor innervation and the subjective sensibility, for any emotions were followed by diffused flushing of the face, the forehead and the ears; the hands were cold and the palms moist and the patient complained of a general hyperæsthesia, which made even the feeble stimuli of the most common impressions subjectively seem to her as very strong. Thus was it that she started at every noise, was often sleepless in the night, agitated even to trembling in the daytime, very much excited by romance readings and theatrical performances and yet further extremely sensible to conjugal relations, almost to the degree of pain. Her intelligence seemed superior to that of the average of females of her social condition—consciousness of her own state was very clear; her affective faculties were lively, especially the maternal, in spite, or even, perhaps, because of the impulsive ideas mentioned; the tone of feeling was somewhat depressed from her fear of non-recovery and not from the immediate effect of those ideas; perception and memory were intact; volitive energy was not regular, as appears in the frequent disattention of the patient during my interrogation, but it was rendered still more evident by the exposition which she gave of her own sufferings. This slight degree of weakened will-power had, however, become noticeable

only lately—the fruitlessness of her efforts had dispirited her and she now opposed to the invasion of her fixed idea much less resistance than in the first two months. It was, indeed, this diminution of her own activity that most terrified her, for she said: “I shall finish with yielding to the impulse, if my power of resistance does not increase” and she therefore looked forward with terror to the moment in which her “crisis” would have a fatal exit.

The diagnosis was not doubtful: few cases have appeared to me so typical as this one; and the fixed idea having arisen during a period of exhaustion, consecutive to the puerperal state and the exercise of the maternal functions, not only illumined the pathogenesis of the affection but also determined the therapeutic course. Hence, without hesitation, I advised suspension of her suckling, separation from her husband and child, giving the latter to a nurse and sending it into the country. I put my trust in simple means, but prescribing, to satisfy the usual desire of the family, a tonic and slightly sedative treatment (arsenate of soda, quinine and iron—tepid baths and paraldehyde) against sleeplessness. The crises diminished as soon as she found herself alone, far from her husband, her child and her own house. I must indeed say, in deference to truth, that my prescriptions were not much tested and that if the exit of this paranoia was the gradual disappearance of the accesses and the happening of perfect recovery, this was obtained exclusively by the moral treatment and more than all by the abolition of those impressions which had provoked the initial motor sensation.

This case not only confirms the conceptions expressed by me, but also presents the occasion for a few other remarks, which seem to me not less important.

And first of all, the rudimentary paranoia was here developed without a degenerative foundation. It is therefore an error to regard these forms as always proceeding from a psychical degeneration, as would appear from the post

assigned to them by Krafft-Ebing in his classification and as our Cantarano seems to believe. Berger had first held that fixed ideas, though they are undoubtedly of neurotic or neuropathic origin, do not, however, always proceed from heredity, but in many cases are developed on a simple, neuræsthenic-acquired basis. More recently Kraepelin, omitting the denomination of "degenerative psychoses," included insanities with fixed ideas under the far more correct title of "neuræsthenic insanity."

Tamburini also alludes fully to the influence of debilitating causes on the nervous system (intellectual fatigue, sorrow, fear, onanism, sexual abuses, anæmia, exhausting chronic diseases, diseases of the organs of reproduction, etc.), and to that of the biological periods of existence connected with the activity of the sexual functions (puberty, maternity, menopause). It cannot then be denied, that the degenerative character is frequently wanting in rudimentary paranoia: indeed the not rare aborting of the affection, is a confirmation of the altogether individual development of it. It is on these reasons that I base my classification of these forms among the "paraphrenias" of the second group, that is, among those depending on a congenital neuropathic constitution, but not always hereditary or transmissible.

A second consideration is suggested to us by the intimate bond between the fixed impulsive idea and the exercise of the maternal functions. Such a relation between the phenomena of psychical life and those of the sexual life, rules, to the eye of one who looks closely into the facts, in at least one-half, if not three-fourths, of the whole range of mental pathology; and it shows how great is the influence which, in the philogenetic and ontogenetic evolution of human thought, the reproductive functions have exercised and still exercise. The form indeed most frequent of neuræsthenic states, is that which Beard has well called "sexual neuræsthenia." In this there appear, for the most part, abortive, delirious conceptions, of a hypochondriac nature, which tend to prevail in

the associative processes of ideation, precisely as in our case and the kindred sort; certain ideative or impulsive representations tend to fix themselves in consciousness. The analogy might deserve investigation, inasmuch as we might probably see confirmed by it, that law of psychophysiology, according to which these correspond to determinate biological movements, determinate formal and substantial modifications of the psychical activity. Sexual neuræsthenia, with fixed hypochondriac ideas, in adult age and the state of impenitent celibacy, might certainly in some respects be collocated near to the pure rudimentary paranoia of sexual origin, which frequently occurs in woman from exhaustion, consecutive to maternity and may from this etiological and symptomatic affinity, pass into a perfectly explainable form.

Another fact must be mentioned: it is the decisive and potent influence exercised by external impressions in the developing of a delirious conception, or, as in our case, a fixed idea, which, as to the rest, may be called an abortive delirium. That the surrounding in which our lives pass, is the chief fountain of our mental representations, is a fact admitted by all; but psychological observation shows also that the emotive side of these representations comes exclusively from our mode of feeling; that is, it pertains to a subject which it adds to the impressions of the outer world, coloring and toning them.

Now in rudimentary paranoia the fixed idea presents itself as the product of an external, direct stimulation, or as a mnemonic residuum of preceding stimulations; nor is it preceded at all by a disturbance of the sentimental tone, or of the mode of reaction of the organism. Herein exactly consists the great difference between the explicate or allegorical delirious concepts of the simple psychoneuroses, which have a logical development in their very absurdity, and those delirious, primordial, original concepts of the various paranoic forms. It is profitable to insist on similar differences, because those (and they are not wanting among our alienists) who yet demand the motives

for the reform, introduced into some Italian psychiatric schools, regarding the clinical conception of paranoia, may discover in what the reform really resides and thus be convinced of its importance.

In the case now described, it is seen that the intellectual mechanism was not substantially altered; the disorder occurred, as Buccola has observed, in the process of association, which was broken at the expense of logicity, in the series of the conscient representations. The irruption of an idea, so morbid and strange, into the continuous web of thought, to which it remains and will remain altogether foreign, brings into light the importance of the inconscient phenomena and establishes yet once more, the fact that we are not always perfect masters of the associating and co-ordinating of the images and emotions, at our good pleasure, as the old psychology maintained. Our mental representations in general, and the ideo-motor in particular, are associated without our perception, and they contend and conquer without our knowing anything of them; and what is more singular, without our ever being conscious of all this profound and intimate mental labor. Hence it comes, that when we assert our ability to turn our attention to any idea we please, or to any idea which comports with the logic by which our mental life appears to us to be regulated, we are asserting what is not true: attention is purely and simply a psychological act, through which we discover that a given idea or emotion is present in consciousness. Were it otherwise we might evoke all the ideas imagined possible, in the brain; but the very contrary is our condition. I cannot therefore subscribe to the opinion of my distinguished friend Prof. Tamburini, who regards the debilitation or dissolution of voluntary activity as a genetic or fundamental element in the fixed idea. This disease of the will is certainly not wanting in a case of rudimentary paranoia, but, in my opinion, it is generated only in a secondary phase, as the effect of a truly primitive alteration, which is produced by disturbance of the ideative association, in consequence of the transfer-

ence of autonomous representation to the inside of the threshold of consciousness and above the domain of the unconscious. In original degenerative paranoia also, the dominant psychopathologic phenomenon is the abnormal formation of the ideative emotions.

Finally, my case confirms still further the importance of moral treatment in neuræsthenic forms of insanity. In simple neuræsthenia all are agreed in attributing the first post to psychical therapeia. My own experience, which is based on medical practice in a city and a region of Italy in which neuræsthenic affections are numerous, from the excessive psychical activity of individuals, has at last rendered me sceptical with regard to the curability of such neuroses by physical means. I have had occasion to be always more convinced of this in the direction of a large hydropathic establishment and in occupying myself closely in electro-therapeia. If the physician thinks he may confide in the isolate action of tonics, sedatives, calmatives and the like, the failures he will encounter will soon prove to him that he has lost his way; but if at the same time, or even exclusively, he will adopt a rational psychotherapeia, he will see the constitutional neuropathic state of his patients rapidly and radically modified, and he will be persuaded that in the majority of these cases it is necessary to invert the maxim thus: *Corpus sanum cum mente sanâ*.

The Work of Medicine for the Weal of the World.*

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IT is gratifying to the humanitarian student of scientific medicine to note the amazing progress lately made in knowledge of the human organism and in resources for its regulated control in health and disease.

Since Democritus, in that classical garden at Abdera, made one of the earliest dissections, to learn thereby, if possible, the morbid nature of melancholia, such strides toward a knowledge of the nervous system and its diseases and their treatment have been made as would have impressed the physicians of antiquity with the belief that their modern brethren were sorcerers and charmed men bearing charmed lives. Much of this has taken place within the past three decades, for when I entered the profession but little compared to now was known of the wonderful mechanism and normal function of the nervous system and its not less astonishing morbid manifestations, as we study and treat them to-day. True, the astonishing anatomical discoveries of Sir Charles Bell and of Claude Bernard into the intricate function of the nervous system, which with the amplifications of Solly, Abercrombie and other anatomists of the brain and spinal cord and the contributions of our own Brown-Séquard, then an American and the pioneer neurologist of our country and foremost in the world, had already attracted the attention of a few medical *savants*; but not an American or European school had then a chair of Neurology or Psychiatry, though Rush had, nearly half a century

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before, clinically described some mental diseases in the Pennsylvania hospital in advance of all the world across the sea, and his descriptions have been lately verified, approved and re-affirmed at home and abroad as evidence of our present advance in Neurology.

Notwithstanding the great discovery of Sir Charles Bell respecting the spinal nerves had long before been announced to the world, the diseases of the sympathetic nervous system were then scarcely known, and are only now beginning to be generally recognized and studied. True, the great works of Rokitsanski, and Koliker, and Trousseau, were before the world, the great, the venerable Virchow, was fast winning converts to his cellular pathology, the fame of Charcot as a great clinician was rapidly spreading, and Romberg had written a work on nervous diseases destined to endure; but neurology, as a special department of medical study, was not then much considered by the profession at large, though Charcot and his European *confrères* had begun to bring it into the special prominence it has since acquired. Graves and Marshall Hall, Solly and Abercrombie, Stokes and Skoda, had made their everlasting impress on the profession. The treatment of fevers had been placed on a rational basis, and the science of physical thoracic exploration and descriptive anatomy were almost as perfect then as they are now.

Velpeau, Civiale, La Rue and Nelaton, Mott, Mussey, Mütter, Stone, McDowell and Pope, with the rising Brainard, of Chicago, and the surgeons of Great Britain and Germany, had made, or were making, the surgery of the middle third of the nineteenth century lustrous and renowned. The work of Corvisart had become common property; the cell doctrine was being taught; ether and chloroform were in use; and Bastian and his colleagues were vigorously and with plausibility contending for spontaneous generation against the old, but now re-affirmed and firmly established maxim, "*Omni vivum ex ovo.*"

The classical and revolutionary psychiatry and psychophysiology of Maudsly, the psychology of Herbert Spencer,

and the discoveries of Ferrier, had been only dimly foreshadowed in the theoretical misconceptions of Gall and Spurzheim, and in the discovery of Broca's speech center in the third left frontal convolution of the cerebrum. Aphasia was then only known as the *alalia* of Lordat—an indifferent condition of the brain affecting speech without involving the intellect, and the great contest between Broca and Aubertin before the Anthropological Society of Paris, that determined the beginning of cerebral localization as a fact of physiological science, had ended in Broca's surrender and later triumph. It is true that Pinel had already broken the shackles of the fettered lunatics of Bicetre, while Chiarugi had done the same for the chain-bound and imprisoned insane of Italy. The elder and younger Tuke, of England, were practicing and proclaiming humanity to these unfortunates in the pioneer land of the *Magna Charta* and *habeas corpus*; and Combe had said and proved that insanity was a disease and not a satanic possession, nor a proof of the anger of the gods; yet, in the profession at large, comparatively little was understood of insanity, or nervous diseases in particular. At that time, to be afflicted with many now well-known diseases of the nervous system, was to be dismissed by the physician, without attempt at treatment, as only nervous; and the unfortunate subject of hysteria, often regarded as a she-devil, who might do better if she would, because a dash of cold water in the face or down the spine brought back to its unfortunate victim the latent, abdicated, or dormant, volitional control of the higher over the lower rebellious and riotous nerve centers, got but little sympathy. Epilepsia, too, was still in the minds of some physicians, and more laymen, the *Morbus Sacer* which no mortal could control; while chorea still retained the name of the patron Saint Vitus, who was supposed to have had the power to stop the grimaces and jerky movements and sometimes diabolical dance, of this psycho-motor and motor-center disturbance.

Brown-Séquard, and that Manchester physician, whose

name I cannot now recall, who preceded him in the use of the bromides, have helped us to dispel many a theological delusion through therapeutic resources.

How unfortunate that the profession had not possessed them and the knowledge we have of their therapeutic power in the time of Cotton Mather, and of the convulsionaries of the middle ages.

It was before our day that Bayle and Calmiel described the general paralysis of the insane, and Prichard, that of moral insanity; but only in your day and mine that they have come to be recognized as distinct morbid conditions of mind, though now often differently designated as paresis, parietic dementia, dementia paralytica, affective insanity, paranoia, etc.

In our day, imperative conceptions, morbid impulses, the *folie de toucher*, and the *folie du dout*, of the French, or the mysophobia of Hammond, and the numerous pathophobias of Beard, are studied as conditions requiring medical aid; and insomnia, as the symptomatic portentous expression of a functional or grave cerebral disease, and constipation in certain persistent forms, as a nervous disease, are just now being studied and treated in a more judicious manner than even ten years ago. The judicious physician no longer contents himself, or satisfies his patient, with only a hypnotic in the one instant, or a cathartic to empty the sewer which soon fills again, in the other. These are but temporary expedients. Any druggist, especially if he be rash enough (and many of them have no lack of that therapeutic confidence which is always present where knowledge is least), can do this.

These patients require, in addition to temporary relief, rested and restored brains, and a re-invigorated sympathetic nervous system, especially in that of one or other of their great splanchnic cavities.

Neurasthenia, or, as I have called it, General Functional Neurasthenia (a term expressive of its cause), has come to light in my time. Doctor VanDeusen, of Kalamazoo, Michigan, and Beard of New York, who were

the first of all modern observers to describe it, were personally known to me, the latter at the time his first paper was published on the subject; and oh, what a world of woe has been saved to man and woman by the discovery—especially to woman! To be weak, exhausted, and unstable in one's nervous system, is to be miserable; but to be thus miserable and unappreciated by both laymen and physician, as these persons were before it was known that people might be exhausted in their nervous systems without an appreciable local disease, was pitiable in the extreme.

The doctor, searching for a *locus morbi*, and finding none in heart or lungs, liver or other of the viscera, and none in the brain or cord, or at least nothing deemed adequate to the general nervous weakness, and, perchance finding in poor woman some slight local displacement or catarrh, or, perhaps, even an ulceration, or some ovarian tenderness, a part of the general hyperæsthesia, or an ovarian congestion that was but part of the lowered vasomotor tone which allowed of arteriole failure of control and vascular fullness there, as elsewhere, in the organism, too often too hastily saddled all the blame on the disordered but unoffending organ, "more sinned against than sinning;" and attacked with knife, cautery, or mechanical scaffoldings, the local part for the physiological fault of the whole. The violence done to confiding woman in the name of surgical therapy, the needless mutilation of her special anatomy in the name of surgical gynecology, are not yet fully appreciated; but thanks to the spreading light of neurological truth, the clitoridectomies of the past, the oöphorectomies and hysterectomies of the present, except chiefly for real local surgical cause, are likely soon to be relegated to the surgery of the more barbaric past; and normal ovariectomy for distant neuropathic perversion will no longer be a recognized surgical procedure. Enlightened gynecology, enlightened surgery and neurology, are now agreed to this.

Knowledge broadens with enlarging surgical skill. To

be only a good cutter is not now regarded as necessarily the best of surgical counselors and in the practice of surgery caution and conservatism have come to be regarded in the profession as the proper accompaniments of boldness and skill with the knife. Surgery learns caution and conservatism from widened experience, just as therapeutics has learned that the hypodermic syringe is a dangerous implement when unwisely handled, or just as obstetrics has learned that the forceps may be too handy and applied too often.*

Medical progress within the last few years has been especially gratifying aside from having exceeded that of many years before in the many therapeutic discoveries already mentioned, most of which have been made within the past five or six years, such as the coal tar analgesiacs, hypnotics and Liebrech's cantharadinate of potash.

We have the discovery of Morvan's disease within the past eight years, the elucidation of syringomyelia and recently the approximative identification of the two as probably Morvan's and Maries' varieties of the same disease, the discovery and differentiation of neuritides from the ataxias and clearer descriptions of paranoia. The first account of that singular trophoneurosis of the bony system, acromegalia, discovered by Marie, was made in 1866 and Salemi Pace has cleared up the subject of astasia and abasia, under the title of "Partial Spinal Amnesia," so late as 1888.

But it would weary you to give a full detail of progress, even in the department of neurological medicine, made within the past year.

Let me just epitomize a little further some of the remaining most important advances, only to index them

(* On the latter subject the *Centralblatt für Nervenheilk* reports the investigations of Winkler and Wallen to the end that the forceps in delivery was a more frequent cause of idiocy than was commonly supposed. In a *post-mortem* examination of an idiot sixty years of age, who had been delivered with forceps, a depression of both parietal bones, corresponding to cerebral lesions, was found. Out of ten subsequent autopsies of idiots one similar condition was found to exist and out of twenty-five living idiots six were found to have depression of the skull.)

in your minds. To the reflexes have been added the virile, or bulbo-cavernous, the anal and oral, for diagnostic purposes.

To Bright's disease insanity has been added as a symptom, though this was known before. The psychopathology of the genesic sense and its aberrations has been especially elucidated since the name of "Jack the Ripper," of Whitechapel notoriety, came before the public. The opium psychosis, likewise alcoholism and dipsomania have been much elucidated the past year. Additional cases of that curious phenomenon *Seelinolindheit*, or soul blindness, have been recorded and Monk has extended the visual area of the cerebral cortex. The relation of the blood to insanity has been more satisfactorily studied and a marked deficiency in hæmoglobin has been found among the insane. This recalls the once despised assertion of Rush, that insanity is a disease of the blood-vessels.

Buckhard has attempted the treatment of hallucinations by cutting into the ideogenic area of the brain and in one case claims to have actually succeeded, but he will probably find few followers. Luys has elucidated the subject of chronic hallucinations, finding coarse morphological change in the paracentral lobule perceptible to the naked eye. Alcoholic neuritis as well as other forms of polyneuritis already alluded to, has been markedly cleared up during the past year. The microbe of tetanus has been confirmed and Ferrier's cerebral localization, in the main, still stands the test of critical clinical and pathological experience.

In psychotherapy the tranquilizing power of galvanic cephalic electrization as a promotor of sleep has been confirmed and admitted, codia in the opium habit and as a substitute for opium in the management of the hyperæsthetic neuropathies, sulphonal, amyline-hydrate, chloralamide, hypnol, hyoscine, phenacetine, exalgine, antipyrine and a long list of new hypnotics, have come into practical use, while chemical synthesis signalizes one of the

greatest triumphs in its history in the production of an artificial quinine absolutely identical with the product of the cinchona tree from a Brazilian shrub *remijia pedunculata*, treated with iodine and chloride of mythyl, thanks to MM. Grimand and Armand; while experimental physiology has proven that tolerance of and resistance to the zymotic diseases and marked immunity from them in many instances may be secured by protective inoculations, out of which, also, have grown Listerism and the safe, grand and painless surgery of our day—a surgery of half a century's growth, to which all the surgery of all the past in the world's history does not compare.

Congenital myotonia, as a disease of muscle, due to a persistence of or reversion to the embryonic type of muscular tissue, has been proven this year by Deliege. The pathology of athetosis has been shown by the younger Hammond, and Hachin demonstrates anew the neurotic theory of cholera. New proofs of the influence of the nervous system upon abnormal pigmentation are being constantly brought forward and dermatology is paying large tribute to dermo-neurology in other directions, notably the eczemas.

These notes of progress show that medicine is not standing still, but keeping up with the procession and what is being done in my special department, is going on all along the line. What an inspiring record of discovery have we now and what a prophecy for the future! If it be the proudest possible boast of a man to-day to be a physician abreast of the present advance in medicine, what may it be in the generation that shall come after us? What would Hippocrates think could he now see what great results have flown from that early and faulty dissection of his friend Democritus, to which I have alluded? and what an amazing advance has been made since Vesalius, braving the superstition of his times and even impending death for his temerity, dared to make the first human dissection. Though the atrabilis for which Democritus

sought was but a myth of the imagination, from attempts like that of Democritus, grew Galen's proof that the arteries contained blood and not air, Harvey's and Jenner's great discoveries of the circulation and vaccinia, Claude Bernard's demonstrations of vasomotor arteriole control, and Sir Charles Bell's discoveries in connection with the great sympathetic nerve.

The age that has so perfected the implements of war as to make peace profitable to all the world, that has given us the sewing machine, the telephone, the phonograph, the graphophone, the electric car for surface and ærial travel, sending man around the world in an incredibly short space of time and sending audible messages with lightning speed of his journeyings back to his home, has given us resources in medicine and surgery equally astounding—discoveries and resources in biology and in physiological and chemico-therapy so surprisingly grand and useful that skepticism is silent and criticism has become optimistic of nearly every professed novel resource of legitimate science. The favorable reception, for example, of Koch's recent incomplete discovery is in marked contrast with the early rejection, by the profession, of the discovery of Jenner, for on the discoverer of vaccinia, was bestowed, in the earlier days, aversion and contumely almost equal to the threatened anathemas of the Church upon the devoted head of Galileo.

Science is now having its innings. The patient labor of her two or three past decades is bearing fruit in medical channels for the welfare of mankind far beyond the fondest hopes, or the most exaggerated expectations of the past. The miracles of modern medicine are simply marvelous beyond all past conception of possibility. The wondrous, but unwise and unstable and morbid results of modern hypnotism as commonly practiced are not at all comparable to the real and and permanent and safe results of modern scientific therapy—medical and surgical, and the latter are in marked contrast with the fatal mischief of the modern

mind-cure craze. Yet, in hypnotism and the faith-cures of the day, medical science discerns the influence of the psychical over the physical and judiciously employs it. It understands and correctly interprets, though at variance with that of the ages that are gone, the significance of the royal or sacred touch—the miraculous power of priest, potentate or healing fountain. This interpretation is found in the demonstration of Salpêtrière, La Charité and the modern miracles of Nancy. Bernheim, Charcot, Paul Richet, Luys and Braid, who preceded them, have given the explanation.

The marvelous results of modern psychotherapy scarcely exceed the effects which follow judiciously applied electrotherapy, to say nothing of anæsthesia and the modern resources of the later *materia medica* proper, in systemic and local disease. The power to control symptoms fills the mind of the modern physician with amazement and his heart with thankfulness as he compares it with the comparatively meager resources of the past. Pain in disease is practically under his perfect control; insomnia, no matter how grave the morbid condition with which it may be allied, is no more, while the manifestations of febrile action may, whenever desired, be entirely subdued, the problem being only when to stop it. Modern therapy is to the modern physician in regard to aberrant function almost what the throttle valve is to the engineer of our day. Now pain and heat, sensibility and the heart's and the mind's morbid impulses are controlled and regulated at the will of the physician; the cerebral, gastric, intestinal, renal and hepatic functions obey him if he be fully as skilled as he may be with all the resources of his art at full command, not with unerring certainty as yet, but with a degree of promptness and accuracy never before attained by our science and art. Truly, we live in an era of wondrous and most gratifying resources in medicine and the triumphs of the present and recent past give us buoyant hope of even greater victories over disease in the near future.

If I have appeared to dwell too much upon neurological progress it is partly due to the fact that advance has been especially great in this department of medical research, partly to the fact that being the first neurologist who has ever been elected to preside over this body, it is probably expected that I should discuss medical progress from my especial stand-point, but my chief reason for so doing is the great and greatly appreciated influence of the nervous system and neurotherapeutic agents in the causation, phenomena and treatment of disease, so great that neural pathology has now a place almost paramount in medical thought, so that the clear view of Cullen that all diseased manifestation is largely nervous, is being confirmed by discoveries of our day and the advances of the century since the great nosologist wrote, tend to confirm his now famous dictum: "*Quantam ego quidem video motus morborum fere omnes a motibus in systemate nervorum ita pendent, ut morbi fere omnes quodammodo Nervosi dici queant,*" words I love to quote, though uttered over a century ago, because every year of medical observation since they were written has proved their truth.

But in every department of medical investigations we are in the midst of wondrous scientific surprises. The orchitic fluid of the great French physiological *savant*; the remarkable inoculations of his colleague, Pasteur; the researches of the great Berlin bacteriologist, Koch, whatever we may think of his tuberculine, have only been transcended by the wondrous laparotomies of Lawson Tait, inaugurated by our own immortal Ephraim McDowell, the brilliant craniotomies of Mr. Godlee and Victor Horsley, the abdominal sections of Nicholas Senn, the surgical antiseptic triumphs of Lister and their colleagues. The cranial topography mapped out by Ferrier and previously pointed to by Hitzig and Fritsch have opened up the old *terra incognita* of cerebral physiology and pathology to the advance of the neurotherapeutist and neurophysiologist, and we are infinitely blessed in the present age over our ancestors in the manifold resources of insight

and of relief afforded by our art in desperate extremes of despairing suffering.

(We seem to be coming under the reign of the "ines" in therapeutics, *e. g.*, tuberculine, spermine, phenacetine, exalgine and the other coal tar products, besides cocaine, listerine, glycerine, maltine and many more new laboratory products bearing this euphonious and familiar ending, and compounds too many to mention, like neuriline, and appliances, like lintine, in the line of patent lint, have found place in our therapy, and the irrepressible *Angeline*, spelled with big letters, has taken her place and will not be put down, among the medicos of our era. Our crinoline *confrère* is mentally pregnant with great ideas and her wondrous intellectual progress is received into the best medical society. If we attempt to shut her out we may expect a *crisis* and climacteric of trouble. Though this involves a change of life in her she is to have no menopause. On the contrary, if she stays with us, as we hope she may, she will be always regular.)

SPECIALISTS AND SPECIALISM.

The recognition of special work in the vast field of practical medical therapeutics has passed beyond the control of the old foggy element who delight in decrying specialism and while there is great danger of specialism becoming "priggish" and hobbyish, this danger can be averted by cordial recognition and fraternal relation of specialism with general medicine. The true specialist should be largely a consultant to the general profession and mainly indebted to it for his practice.

Specialists need only become markedly distinct in the public eye through the profession at large neglecting to give timely and proper recognition and to amalgamate them with the mass in Medicine that makes up the grand salvation army of the race, physically and mentally speaking. We are approaching a day, too, when the territory of the specialist in Medicine will become common ground.

The early coming auspicious day should be hailed by all true physicians. Specialism is simply the advance picket guard which explores the ground ahead and ascertains if it be proper ground for occupancy by the grand army of Medicine, and sooner or later, the whole will take up its line of march and go forward to possess it.

MORAL AND SOCIAL RELATIONS.

Physicians, as a class, are honest men. Professional pride is founded largely in candid dealings with patients. The welfare of the patient is the first law with us and no body of men has ever had so plain a moral plank in its platform of principles as ours. The precept of the golden rule has gleamed through the conduct of the profession in all ages. It was introduced practically in the Hippocratic oath and to-day no body of men stand before the world in a more disinterested or more honest light than does the medical profession. We hold the profoundest secrets of the family with the sanctity of the professional, and few of us are ever charged with filching from our patients for considerations of benefit without reasonable hope of benefiting them.

We are often charged with incompetency, but seldom with dishonesty—never justly the latter, for Medicine, whatever her faults of head, has none of heart towards mankind. She is the peer of all professions, the ministry of the Gospel of the immaculate Immanuel not excepted.

The incompetency of regular medicine is the incompetency of human imperfection only—the incompetency of the times in which we live, not the lack of endeavor. Notwithstanding we live in an age that has given us the electric light, we still see some things as through a glass darkly, but it is safe to say that our profession partakes as much of the general illumination of the present age as any other of the practical arts and sciences. We have utilized the electric light in exploring the obscurest recesses of the body and the lightning in treating its diseases. We are chasing the

bacilli to their lairs and seeking to solve their pathological or physiological and hygienic significance.

THE UNRECOGNIZED HELPING HAND.

Medicine benefits mankind in a thousand ways not appreciated without the profession, even as "the light shineth in the darkness, though the darkness comprehendeth it not."

The pestilence that once walked in darkness and the destruction that once wasted at noonday, now destroy no more, because the hand of a Jenner, a Pasteur, or a Koch has said to destroying disease, as was said by a Mightier one of old to the engulfing sea, "thus far and no farther." The destructive force of devastating nature becomes impotent of harm, and the fears of threatened and trembling humanity are allayed. Few of the thousands of human beings rescued from former peril of small-pox ever think of the inestimable service rendered them by Jenner and vaccinia, as the thousands yet to be saved from terrible death, "in consumption's ghastly form," or in cholera's fatal collapse, will in the years to come give not much thought to the mysterious salvation of Liebrecht and his cantharadizin; or the inestimable researches of Koch; nor will it think of the millions of deaths saved through other bacteriological researches and the numberless hygienic, health-saving, death-resisting discoveries freely given to the world by the medical profession of the nineteenth century. How little does the world at large think, in its wild chasing after folly as it flies, after wealth and fame, honor and glory, which so elude the pursuer and throw him into the hands of the physician, of the restless and myriad-peopled world about it, which has been conquered to health since the memorable, original bacteriological discovery of Leuwenbroeck, about two centuries ago, so that man now lives where he formerly died, through applied science and the labors of the medical profession. And while the conflict goes on, the physician stands sentinel for mankind, fighting

his battles for him against the destroyer of his peace and the things that threaten his health and life. Yet how little does the rescued world now think of its obligations to the medical profession for its escape from the fatal dangers of malaria, and the horrible ravages of small-pox, cholera, etc. The world has almost forgotten how deadly the Pontine marshes were in the time of the Cæsars, and how comparatively safe they are now through the advances of hygienic, prophylactic, and therapeutic science.

The medical profession is humanity's earthly human providence. It watches over man, unappreciated and unthanked, often, in his hours of wakefulness and while he sleeps, from his cradle to his grave, and wards off threatened dangers unseen by others, and as in regard to that high and supreme Providence who rules over all, man often gives the doctor and his vigilant work for his welfare a thought only in his last hours when he is too feeble to think of anything else and, alas, sometimes when it is too late for his physical, as it may be for his spiritual, salvation. Glorious profession! practiced in the life of Christ and His loving disciple, Luke, the good physician.

NON-POLITICAL INTERFERENCE WITH PUBLIC MEDICAL CHARITIES.

The medical profession champions the cause of the weak and the afflicted. And it is fitting, therefore, that I should close this address with a word for the world's helpless wards who cannot speak for themselves.

To the victors may belong the spoils of political conflict, but where the spoils are human victims, minds dethroned and sacrificed to medical incompetency and party policy, we who are the professional descendants of those who brought these unfortunates out of the cruel bondage and neglect of a past inhumanity and superstition

towards them, should secure for them the proper medical, as well as custodial care, which their disease demands in lieu of their broken chains and filthy, neglected dungeons.

Many of them, even in our almshouses and county asylums, have fallen from high mental estates, even higher places than those held by some who hold in the hollow of their hands their destinies, and their pitiable helplessness mutely pleads with our consciences to extend them sympathy and aid. We should endeavor to so influence public opinion and to so use our ballots, that parties and politicians so politic and inhuman as to sacrifice the mentally and physically maimed, or ill, in public hospitals and other of our eleemosynary institutions whom it is our special duty, under Providence, to guard, shall know the profession's indignation and feel its power.

The ordinary physician requires several years of training in these institutions, added to his general professional knowledge and experience, to fit him for the proper understanding and care of the insane. To turn him out at this time, as is often done and put in a novice, is not only a wrong to him who has given up his private business, expecting a permanent municipal position, but it is a crime against humanity against which science, experience and every instinct of human charity protests.

It would not damage the interests of parties to apply rules of Civil Service reform and fly the non-combatant flag over our State and city hospitals, especially for the insane, remembering that the mentally maimed who have fallen in life's conflict, are entitled to something more than to be tenderly carried from a field on a stretcher to a place of shelter. They should have their wounds skillfully treated and they should be restored, if possible, again to duty.

This is a sense of duty and every consideration of sound public policy prompts us to so do and to demand.

THE DOCTOR IN POLITICS.

One other subject, briefly, and I close. The doctor has too long held aloof from affairs of State. Result—our greatest names in medical history ignored if not forgotten; our highest interests and those of the people neglected and unappreciated. Benjamin Rush, great in his day and greater now, signer of the Declaration, Surgeon-General of the American army during its struggle for the life it gave the nation, author of immortal fame in medicine and a practitioner of skill and wonderful expediency in the grave emergency of a British embargo which saved the Continental Volunteers much suffering, has yet no monument to his memory. McDowell and Sims, too, and Jackson, who, if ever military hero or civil statesman deserved to be so remembered by a grateful people, should long since have been commemorated in bronze or marble at the nation's capitol. They would have been if our best medical men, imitating the great Virchow and others abroad, had taken part in the legislation of this country. The medical staff of the army and navy, too, would have had the higher rank which they deserve.

A PHYSICIAN IN THE CABINET.

Had we thus looked to our interests the President's Cabinet would long since have been represented by one member of the profession, as the law, agriculture, finance, etc., are. We should have had the Medical Minister of Public Health, for which the American Medical Association is just now pleading, much to the profit of the people in the saving of the public health and of innumerable lives and to the honor of the profession, which, above all other callings, has been the friend and benefactor of mankind, giving to humanity one of its greatest blessings and to the world many of its greatest and best men, whatever the world may say to the contrary—men who, like Hippocrates, destroyed the most fatal of the world's delusions and proved that law and not the caprice of the

gods governed nature's rule over the morbid processes, or like Vesalius, who dared and did for mankind more than ever valiant warrior on the field of battle—nature's uncrowned noblemen, who may yet live in the hearts of some unlaureled, even as the memory of Harvey and Jenner and Jackson and McDowell and hosts of others here unnamed, are not yet fully appreciated by the world at large. But their deeds will shine brighter and brighter as the world comes to know them and fully realize as we do their incomparable benefactions, their unsurpassed greatness and their unequaled heroism.

Remarks on Some Cases of Hemiplegia.

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HEMIPLEGIA is an old subject and one that might be thought to have been so thoroughly threshed out that there was nothing left to be noted or recorded. This is not by any means the case. Until everything is known about a disease, our knowledge is only partial. In medical problems it can but rarely be said that we have reached finality. In hemiplegia there are not a few questions on which full light has not yet been shed. In this article I shall endeavor to deal with some of these obscure questions as they have been illustrated by some cases I have seen.

1. Authors, in speaking of cases where one side of the body is completely paralyzed, remark that the head deviates to the sound side of the body; or, in other words, looks to the side of the head where the lesion is located. When we meet with a case that is distinctly at variance with this general statement we must face the difficulty and seek for an explanation, as it undoubtedly has one, like all phenomena in nature. It is the finding of this explanation that extends our knowledge of the particular case and enlarges our views on the application of the general law.

A patient, 68 years of age, had a hemorrhage into the internal capsule of the right side. The location of the clot was such as to completely paralyze the left arm and leg. Motion and sensation were both absolutely annihilated. Pinching or pricking the skin of either arm or leg failed to elicit the slightest response. Indeed a more complete degree of motor and sensory loss could not be imagined. While this was the case with regard to the leg

and arm, the head was spasmodically and persistently directed to the left or paralyzed side of the body. This condition of wry-neck continued throughout the entire illness. The patient lived for six weeks and died in the condition of typical asphyxia. I remained with her during the last two hours of life; and though the state of coma had become complete, the head still deviated to the left side of the body and the right sterno-mastoid very decidedly resisted any attempt to turn the head and face to the right or unparalyzed side. Left lateral hemianopia was complete. Objects lying in the left field of either eye were unnoticed.

The diagnosis, made during life, that there was a lesion in the internal capsule, of such an extent as to destroy the optic, sensory, arm and leg radiations, but not those of the head, was substantiated by the *post-mortem* examination. That portion of the internal capsule just at and in 'front of the knee had escaped destruction. This is the section of the internal capsule giving passage to the motor nerve supply to the eyes and head. In the case under discussion the fibers for the eyes and head in the right internal capsule were not destroyed, but irritated. This explains why it was that the eyes and head conjugately deviated to the left or paralyzed side. Had the fibers for the movements of the eyes and head been also destroyed, as were those of the arm and leg, the eyes and head would have conjugately deviated to the right; or, in other words, would have looked towards the lesion as has been facetiously remarked by some writers. The nerve supply to the eyes and head, coming from the right hemisphere of the brain, was irritated by the neighboring injury from the clot and, as a consequence, was over active, causing the spasmodic deviation of the head and eyes to the paralyzed side.

This case illustrates beautifully the difference between a destructive lesion and an irritative one: the former causing abeyance of action, the latter excess of action. There was no other lesion found that could have caused the deviation, though most careful search was made for

such. It is generally accepted that in order to produce spasmodic or convulsive movements the gray matter of the center corresponding to such movements must be irritated. How was it then that there was spasmodic deviation of the head and eyes to the left in this case, while the seat of the lesion was in the internal capsule? This is a difficult question to answer, but several solutions may be offered, some, or all of which may have their own bearing upon the phenomenon. In the first place the hemorrhage into the capsule may have caused some degree of irritation to the cortex above, by pressure or inflammatory extension. In the second place there may be upward impulses to all parts of the cortex as well as downward ones. This view I hold in common with M. Foster and others. In this way there could be an upward irritation from the lesion to the cortex and then a downward one from the cortex, so as to cause the rigidity of the requisite muscles to turn the head to the opposite side from that of the lesion. In the third place it may be that irritation in the course of a motor tract, apart from irritation of the center, may cause a downward stimulus and result in motion, as irritation of a sensory tract causes an upward current, awakening conscious perception, or reflex action.

On the third day after the apoplexy, the myotatic irritability of the rectus muscle on the left side was much greater than that of the right side. It was tested while the patient was lying on the back, by pressing the patella firmly down towards the foot and then making percussion with the other hand. This exaggerated state of myotatic excitability continued throughout the illness. It is worthy of note that this muscular irritability came on too soon to be in any way due to the influence on the spinal centers of a degeneration in the pyramidal tracts. As the influence of the cerebrum was absolutely removed from the spinal cord it could not be due to any action, stimulatory or inhibitory, of this organ. The reasonable supposition is to accept the view of Hughlings Jackson

and Bastian that the knee-jerk is due to a cerebellar influx to the lower spinal centers. But this view I have advocated elsewhere in detail. The superficial reflexes were abolished. Tickling or pricking the sole of the foot or the palm of the hand elicited no response.

2. Another matter of much interest is the occurrence of hemiplegia and tabes together. In the *British Medical Journal* for July, 11th, 1891, Hughlings Jackson and James Taylor describe a case of hemiplegia in a tabetic. As the result of the posterior sclerosis, the knee-jerk on both sides had entirely disappeared. The right side became paralyzed. The knee-jerk returned on this side very distinctly and slightly on the left side, the latter due, most likely, to degeneration in uncrossed fibers. The view taken by the authors of the paper is that as the cerebral inhibitory power was lessened over the spinal centers, owing to the degeneration following the hemiplegia, they became more easily excited and that the feeble impulses traveling through the posterior columns could act upon them and produce the reflex action of the knee-jerk. There was developed, as the result of the double process, ataxic paraplegia. This explanation is, no doubt, the correct one. It will be of extreme interest to hear of the end of the above, as to whether the knee-jerk again disappears as the tabes increases.

Along with this case of Jackson and Taylor, I shall give the notes of one where the same pathological changes occurred together, but in a somewhat different order.

The patient, at the time of his death, was in his forty-ninth year. He had syphilis when about twenty and had been salivated. Thirteen years prior to his death he had a hemiplegia, affecting the right side. He never fully recovered from this attack. Two years after the above attack he had a second one, involving the same side. After this attack, walking was very difficult. In a little over three years from the second, he again

had a third seizure. It was at this point of his history that I saw him for the first time.

When I saw him he was quite conscious, but had no power over the right leg and not much over the right arm. Speech was difficult. The superficial reflexes were retained. The knee-jerk on the right side was much exaggerated, while on the left side it was very slightly greater than normal. No ankle clonus on the left side; on the right side, this symptom was easily elicited. Sensation in the right arm and leg was impaired to a small extent.

From this point onwards for six years, he remained a steady patient of mine. A short time after the third hemiplegic attack he began to complain of paræsthesia in his feet and legs, as tingling, creeping, cold, numbness, as if his soles were covered with felt and that his feet were far too large. Within a year he had lost the sexual reflex. The knee-jerk was gradually becoming weaker, especially in the left leg. Indeed he was now suffering from posterior sclerosis, as well as from his hemiplegia. The tabetic symptoms steadily increased and progressed. There were ptosis, contracted pupils, lightning pains, Argyle-Robertson symptoms. One of the most annoying conditions was a feeling of constriction around the body, at the level of the umbilicus. He died in an attack of laryngeal crisis. Before death, the knee-jerk had disappeared entirely from the left and was hardly perceptible in the right leg.

The *post-mortem* revealed cerebral softening, most likely due to atheroma and thrombosis, on the left side. Distinct tracts of degeneration were found in the spinal cord in the lateral column of the right side. There were also a few straggling bundles of degeneration in the lateral and anterior columns of the left side. The slight amount of degeneration found in the left anterior column would probably explain why the right arm was not extensively paralyzed. On the other hand, the presence of a slight degree of degeneration in the lateral tract on the left

side, would account for the increase in the knee-jerk on that side before the posterior sclerosis began. It would also show that all the fibers did not decussate. With regard to the posterior columns, there was the characteristic changes of locomotor ataxy.

In this case there is a good example of a double form of lesion. There is a combination of descending and ascending degeneration. The former, having been in existence for some time before the latter, gave rise to the usual exaggeration in the knee-jerk. The latter, by its increase, gradually again reduced the activity of the knee-jerk, until it disappeared in the left and almost so in the right leg. There were the double morbid changes of ataxic paraplegia. The paralytic symptoms in this case were dependent upon cerebral changes and were hemiplegic in distribution. The ataxic symptoms were the result of the posterior sclerosis. In ataxic paraplegia there is found the combined condition of sclerosis in both lateral and posterior columns. In ataxic paraplegia of purely spinal character, both sides are involved to an equal degree. In the case just recorded one-half of the case is of cerebral origin. This case differs from true ataxic paraplegia, as one would expect it would, in several important points. There were lightning pains, crisis, paræsthesia, girdle pain and loss of myotatic irritability, as the *tabes* increased, all of which are extremely rare in ataxic paraplegia. These important differences were due, I think, to the differences in the amount of sclerosis to be found in the lateral and posterior columns in the two forms. In true ataxic paraplegia, the sclerosis of the lateral tracts is much in excess of that in the posterior, causing the spastic symptoms to take the lead over the ataxic. In my case of *tabes*, occurring in an old hemiplegic, the sclerosis in the posterior columns was far in excess of that in the lateral tracts and, hence, the ataxic symptoms were more prominent than the spastic and finally almost annihilated them.

3. The effects of hemiplegia on the knee-jerk in those

cases where this phenomenon is known to have been absent before the advent of the former, are of very great interest to the pathologist. I have already referred to Jackson and Taylor's case of the return of the knee-jerk in a tabetic who was attacked with hemiplegia. This reflex is absent in some other conditions, notably diabetes. Of this I have seen two striking examples, where the knee-jerk had entirely disappeared during the progress of diabetes mellitus. The case to which I call attention now was examined by myself for life insurance, in May, 1888:

His urine was then normal. In December of the same year he was taken suddenly ill with diabetes. He was then in his forty-first year and lived a little over two years more. During the course of the diabetes the knee-jerk could not be detected by the most careful search. Seven months prior to his death he had a hemiplegia of the left side, which came on slowly and was most likely due to atheroma and thrombosis.

The knee-jerk never returned on the right side, but on the left side it could be obtained by the end of a week and continued present until the death of the patient.

Now, the return of the knee-jerk in this case is very interesting and suggestive. The diabetes had exerted a deleterious influence upon the nervous system and had abolished the natural condition of patellar reflex. After the occurrence of the hemiplegia it returned on the paralyzed side. By the lesion in the brain and consequent degeneration in the left lateral tract, the inhibitory control of the brain became cut off from the spinal centers. When once freed from this check, there remained sufficient myotatic excitability, whether spinal, as held by most, or cerebellar, as held by Bastian, Jackson and myself, to restore the knee-jerk. According to the generally accepted view, as the degeneration descended the spinal cord, its centers would become, as a result of this degeneration, more excitable and the reflex more easily obtained. I think, however, the correct view is that the

cerebellar influx to the spinal cord going on, as it did before the hemiplegia took place, was now able to stimulate the spinal centers, there no longer having the cerebral inhibition to contend against. In this case, though the nervous energies were greatly reduced, there still was sufficient to maintain myotatic irritability, as soon as the action of the cerebellum and spinal cord was liberated from the control of the cerebrum, which was effected by the lesion of the hemiplegia.

4. Another very interesting study is to watch the relationship that aphasia bears to hemiplegia in persons that are known to be right or left-handed. To the kindness of the late Dr. Charles Archibald I owe my thanks for the privilege of investigating the following case :

The patient, when I saw him, was thirty-one years of age and a clerk by occupation. He had had two attacks of inflammatory rheumatism—the one three and the other eight years before the onset of the hemiplegia. He had also contracted syphilis six years previously, for which he had taken a mixture containing potassium iodide and perchloride of mercury, two months only. He was most markedly left-handed. Instinctively this was the hand he preferred to use. He did a great part of his writing with the left hand, writing from left to right, as if he had the use of the right hand.

He was attacked suddenly with a severe hemiplegia, affecting the left leg, arm and face. There was complete motor aphasia. He was unable to speak or to repeat the simplest words or phrases. He understood well what was said to him and could use the right hand in communicating his thoughts through short sentences. In three months his speech and locomotion had returned to such an extent that he could make himself understood and walk with the aid of a stick in his right hand. He went to the Hot Springs in Kansas and I lost track of him.

This case of left hemiplegia with aphasia bears out the opinion, held by some, that such is the rule, when the patients are left-handed. The fact that, as the result of study and practice, they may have learned to use the pen and knife with the right hand, does not overcome or

remove the natural preponderance of the right cerebral hemisphere, which must be the case in left-handed people. In specialized movements the right hemisphere is most evolved and governs the left hand in such complex movements as those of writing and adjusts the movements necessary for articulate speech. This patient had learned the use of the right hand in writing, which remained after his hemiplegia began; but he was at once bereft of the power of speech. This is what would have been expected. By practice, he had educated a writing center in each hemisphere; but only one speaking center, namely, the one on the right side.

5. The occurrence of associated movements and sensations in hemiplegia afford some important data for the study of the functions of the nervous system. Judging by the references to these conditions to be found in medical writings, there has not been much attention paid to them. In some cases a strong voluntary movement of the unparalyzed arm or leg, causes an associated movement of the paralyzed arm or leg. A still rarer form is that where cutaneous stimulation of the sound extremity produces movements in the paralyzed extremity. There is yet a third variety, where sensory stimulation of the paralyzed limb causes movements in the sound side. Of this form I can find only one description, that by Nothnagel, in which a pinch on the paralyzed arm caused movements of the other arm and sometimes of the sound leg as well. W. R. Gowers remarks that "the explanation of these associated movements is doubtless to be found in the connections of the subsidiary centers through which they are produced."

In a very hot day in July, 1890, while playing some wind instrument in a band at the head of a procession, an elderly man, whose age was given as sixty-five; but who appeared to be over seventy, was taken with an attack of apoplexy. I saw him about an hour after the onset. The coma was not complete, though deep. The muscular relaxation of the left arm and leg could not

have been more complete. The face was flushed and the left cheek flapped in respiration. The loss of sensation was not complete; but when any part of the affected hand or foot was pinched, it was referred to the same part of the other hand or leg. When the plantar-reflex was tested on the paralyzed side, the right leg was invariably drawn up. On firmly pinching the toes of the left foot, the right leg would be moved, then the right arm and finally grimaces were made by the right side of the face. The patient was conscious to pinching, tickling and pricking of the left leg or arm; but, as stated, they were always thought to be on the sound side. When the left toes were pinched, the patient was conscious of the sensation and the motion, both of which he thought were in the right leg, whereas, only the latter was so placed. The diagnosis was a hemorrhage into the right internal capsule, which the *post-mortem*, five days later, proved correct.

Now, what is the explanation of these phenomena? Gowers' view has just been quoted above. From this view I dissent. "A strong effort to grasp with the unaffected hand will sometimes cause a movement in the paralyzed hand" (Gowers). This is not an action of the subsidiary centers, but of the highest cerebral centers, and takes place in time on the paralyzed side concurrently with the sound side. Two other explanations may be offered. The first is that the movement of the affected hand, when an effort is made with the unaffected one, is due to the action of uncrossed fibers; and when the uninjured hemisphere acts, the main part of its stimulus passes to the opposite side of the body and the rest to its own side. Thus, if the arm center acts, the unaffected arm would move freely, while the affected arm would move but slightly, or not at all, according to the amount of uncrossed fibers, or the strength of the impulse passing down them. The second explanation is that by the lesion the motor path is not wholly destroyed, but that the injured half of the brain has lost the power of independent action and only acts when the other hemisphere acts; and, as all the motor path has not been destroyed, some movement follows. According to this view the injured hemisphere has lost its automatic

power and can neither act by itself nor refrain from acting when the other half acts. Either of the above views meets the requirements of the case better than by an appeal to the action of subsidiary centers. When recovery is taking place, an effort to move the paralyzed arm or leg, causes movements in the other arm or leg. This can be explained in the following way: The injured hemisphere, though recovering, has not yet gained the full power of unilateral action; and, in order to get the affected extremity to move, the unaffected has to be permitted to move. Or, it may be that the movement that takes place in the affected part is due to the influence of uncrossed fibers; and, consequently, comes from the same hemisphere as governs the opposite side of the body. The amount of associated movement would, in such a case, largely depend upon the number of uncrossed fibers. According to this view the associated movements are due to association of the sound hemisphere with the diseased one; or, to the associating action of the uncrossed fibers.

In my own case and that of Nothnagel's, where a pinch of the hemiplegic foot produced a sensation in, and a movement of, the other foot, it should be carefully remembered that the pinch was felt—recognized in consciousness—and gave rise to the movements mentioned. To be perceived in consciousness, the sensation must have reached the highest brain centers. To produce the movements, the stimulus must have proceeded thence to the requisite muscles; for in cases of total destruction of the cord in the lower cervical and upper dorsal regions, all reflexes to any stimulus are wholly lost. It is therefore clear that the movements, on the sound side of the body, induced by pinching the hemiplegic foot, must have been produced by a reflex arc which passed through the cerebrum, and not merely through the subsidiary centers.

I am aware that the statement of the complete loss of reflexes in total transverse lesion of the spinal cord is liable to be called in question, but I stand on ground established by the logic of fact and not theory. In my

own case, when the left, or hemiplegic foot was pinched, the right leg moved. The patient referred the pinch, also, to the sound foot. This may be accounted for in two ways. First, that some sensory fibers like the motor do not cross and thus the stimulus from the pinch passed directly up to the left or sound hemisphere and evolved the movements of the right leg, the sensation being referred to it also by diffused or transferred action in the brain. The second method of explanation is that the sensory path in the right internal capsule was not entirely destroyed and thus the sensation of the pinch reached the sensory centers of the right hemisphere. It could produce no movement, by means of this hemisphere, of the left leg. Through the association of the right hemisphere with the left hemisphere, this latter was stimulated sensorially and hence the pinch was thought to have been given to the right foot. Further, this sensory stimulation of the left hemisphere by means of its association with the right one started the currents that moved the right leg.

The above views explain all cases of associated movements in hemiplegia, without an appeal to the aid of subsidiary centers—a doctrine that is completely nullified by the facts revealed by a total transverse lesion of the spinal cord high up. With regard to the opinion that some of the afferent sensory fibers do not cross, we have no positive evidence to offer. During the past fifteen years of constant work in the dissecting-room I have met with so many peculiarities and variations that it would not seem strange to have such a variation from the usual condition. The supposition that in these cases there is not a complete decussation of the afferent paths, affords a better working hypothesis than the appeal to subsidiary centers, which are equally hypothetical and not nearly so satisfactory as an explanation of those cases of associated movements occurring in the hemiplegic and especially in cases similar to my one, where a pinch on the paralyzed foot caused a sensation referred to and a motion of, the unparalyzed foot and leg.

Relations Between Chorea and Epilepsy.*

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IN the following consideration of these two disorders it is my wish to show as far as possible that there exists a considerable, if not very close, relationship between the two. I realize that the comparisons, deductions and conclusions must in a great measure be theoretical, as, in spite of the large amount of literature on both diseases, comparatively little is known in regard to either. Theories upon both chorea and epilepsy are as numerous as anyone could desire, but the profession is to a great extent in the dark and probably will be for years to come, as regards the true character of these neuroses and consequently I wish to preface my paper by saying that no important discoveries are to be disclosed, but I simply wish to bring before the profession a subject which has been of great interest to me and which, I hope, will be of some interest to the readers.

Very little has been said regarding the possible and even probable relation between chorea and epilepsy and the only reason I can give for this is, either the infrequency of the co-existence of the two diseases, or when either disorder has been present alone, the family history has been imperfect.

I believe that there is a direct relation between certain forms of the two neuroses and by this statement I mean to discard all cases of chorea and epilepsy which are the result of various causes and conditions, as intestinal parasites, anæmia, hysteria, phimosis, etc., etc. These reflexes should be regarded as pseudo-forms of the

* Read before the Montom Co. Medical Society.

disorders and in nearly all such cases, if the cause is recognized and removed by proper medical treatment or surgical interference, the course of the chorea or epilepsy is checked and recovery ensues. The cases I shall consider in this paper are those of idiopathic chorea and epilepsy.

It is only a comparatively short time since chorea has been especially considered except as a disease of childhood and for a long time cases of chorea in adults have passed under other names. Of late it has come to be regarded as a most insidious neurosis, especially in its hereditary form and well may it be so considered when we see the sequelæ of a case of chorea.

It is now conceded that chorea may attack adults as well as children; may be transmitted from generation to generation; that it is the cause of mental impairment of a greater or less degree, and, finally, is often the result of some neurotic hereditary taint.

Of epilepsy the same statements may be made. It attacks all ages; is hereditary; always causes more or less mental impairment and generally is the result of a neurotic taint in preceding generations. In regard to a comparison between the two. They are both diseases characterized by convulsive movements, these differing in degree of intensity and, also, in that in chorea they are more or less continuous, while in epilepsy they are paroxysmal. In a case of chorea there may be for a time a cessation of the movements, and likewise an epileptic may be free from convulsions for a considerable length of time, but in both cases these are merely intermissions and there is always a return of the twitchings or convulsions, indicating that both are, as a rule, chronic disorders.

Both are due to disordered nerve-centers and I am of the opinion that always in cases of chorea and epilepsy the centers in the brain are involved, producing both motor and intellectual disturbances, but as these lesions cannot be satisfactorily demonstrated, I shall not waste

time or space in their consideration. My reason for saying that chorea is due to lesions of brain-centers and not those of the cord, is, that in nearly every case of chorea there is more or less mental impairment. Of this I will speak later.

Diller* in his article on "Hereditary Chorea," says:

The diseases of the motor apparatus of the brain are not always so clearly defined and distinct from each other, either in morbid anatomy, symptoms or course as some authorities would lead us to believe; but, on the contrary, are often so intimately associated with each other that a precise diagnosis is difficult or impossible.

As I have said, the *co-existence* of the two diseases is rare, but there are cases of this nature and it was one in which the two diseases existed together which first interested me in the subject. Besides the co-existence of the two neuroses, they may be present alternately in the same individual, *i. e.*, the chorea may be present for a time and then give way to a series of epileptic convulsions and then in turn the epilepsy will cease and the choreic movements return. Epilepsy in one generation may be transmuted as chorea in the next, or chorea in the first may be transmuted as epilepsy in the next or succeeding ones. Chorea and epilepsy may exist in different members of the same family, both being the result of some neurotic taint in the ancestors.

All these conditions are somewhat rare, but I think the reason for this is that very few reports of such cases have been made.

Putzel† says:

Chorea also may occur in one member of a family others of whom present epilepsy or insanity, or the chorea may alternate in the same patient with either of these affections.

Also he states: ‡

Not infrequently it is found that one of the parents, usually the mother, suffers from nervousness or hysteria and in a considerable number of instances I have observed that one or more of the brothers or

* Diller. "Some Observations on Hereditary Chorea, Etc." *American Jour. Medical Sciences*, Dec., 1889.

† Putzel. "Functional Nervous Diseases," Article on Epilepsy.

‡ Ibid. Article on Chorea.

sisters of a choreic patient were subject to epilepsy or hysteria. Although I have not collected any comparative statistics on this question I am nevertheless convinced that chorea develops in those families in which the neuropathic tendency has not taken strong root, while in those which are more severely affected, more serious nervous diseases, such as obstinate neuralgias, epilepsy, insanity, etc., etc., make their appearance. In not a few cases, however, chorea is combined with epilepsy, especially when the former affection has become chronic.

This author practically admits a relationship between chorea and epilepsy. In regard to hereditary influence, he says :

We do not imply by the term "hereditary influence" that the ancestors must have had epilepsy. In fact, any nervous disease in the parent may produce epilepsy in the children. Thus, the existence of hysteria, chorea, insanity, etc., in the parent may be transmuted into epilepsy in one of the descendants.

Diller* says :

Chorea and epilepsy are intimately related to each other. Epileptic convulsions (Jacksonian) may be confined to a single member; the same is true of choreic convulsions. A person having a family history of insanity, chorea or epilepsy or, indeed, any nervous affection, is predisposed to an attack of chorea.

Hammond† cites two cases of chorea which were ushered in by epileptic paroxysms, "which however were not repeated." In the same connection‡ he states that, "in the most fully developed and best marked instances of the disease (chorea), it was often ushered in by an attack of epileptic convulsions."

In these two cases reported by Hammond the epilepsy preceded the chorea; and the very fact that the epilepsy preceded and then subsided into the chorea shows a relation between them.

Hoffman§ reports four cases of hereditary chorea, one of which had epilepsy between two and three years of age. The family in this case were decidedly choreic.

* Diller. "Chorea in the Adult, As Seen Among the Insane," *Amer. Jour. Med. Sciences*, April, 1890.

† Hammond, "Diseases of the Nervous System," 6th edition, page 709.

‡ *Ibid.*, page 711.

§ Hoffman (Virchow's "Archiv.," cxi., 3, 513); *Jour. Med. Sciences*, June, 1888.

In the same connection he reports a case which developed chorea at forty years of age and epilepsy at fifty, and whose mother and three sisters had been epileptics. He remarks in regard to this case, "as regards *heredity* it would seem that epilepsy had taken the place of chorea in the predecessors. This epilepsy differed from the usual hereditary form in that it did not develop in youth, but not until fifty years of age;" and he also states, "It is interesting to note that in this case chorea followed epilepsy, while in one of the others, as already stated, the order was reversed."

I take exception to these comments regarding hereditary epilepsy as a disease beginning in childhood. This is not necessarily the case, as a large number of individuals, who have epileptic ancestors, pass through childhood without having the disease, but in middle life are attacked with epilepsy which differs in no respect from that having its beginning in childhood.

Hoffman's case of hereditary chorea, which developed epilepsy between the ages of two and three years, rather supplements Hammond's cases, except that the chorea preceded the epilepsy. The second case, which developed chorea at forty and epilepsy at fifty years of age, is evidence of the fact that neither of the two diseases must necessarily have their *beginning* in childhood; and in his remarks he upholds the statement I made in the first part of this paper, viz., that a predisposition toward chorea may be transmitted and appear as epilepsy in succeeding generations; and also that the inverse is true, viz., that epilepsy may give rise to chorea.

Dr. Hiram Rucker, Superintendent of the State Asylum for the Insane, Stockton, Cal., has kindly furnished me with notes of two choreics, both inmates of his asylum, one of whom had an uncle who was epileptic and whose brother has chorea. The second case has a half-brother who is an epileptic, the patient himself having been choreic for a period of eight years, between the ages of ten and eighteen.

In the second case reported by Hoffman, in which the patient had chorea, followed by epilepsy, and in addition to this a family history of epilepsy; and in both of Dr. Rucker's cases, though the two last are not epileptics, in which to a considerable extent the same conditions are present, viz., a neurotic taint in the family, producing chorea in one member and epilepsy in another, or both diseases in the same person, it would be fair to conclude that the same lesions or conditions may produce either disease in two or more members of the same family, or both diseases in one, and that the difference in these lesions or conditions is only of degree and not of kind. M. Rosenthal* makes special mention of the hereditary irritability of the co-ordinating mechanism. He says that this is not necessarily demonstrated by direct transmission of the same affection (chorea), but by the presence of other nervous disorders in other members of the same family besides the parents.

Though so little is known in regard to the lesions in chorea I believe that in all cases and especially those of long standing and always accompanied by mental disturbance in some form, that the lesion is in the brain, though many affirm that the constant mental strain in a choreic who knows his case to be hopeless, is the cause of the intellectual disturbances. This may be a factor, but in only a few cases do I believe it to be the cause; for as a rule the mental powers of a chronic choreic or an epileptic are not sufficiently acute to understand or appreciate his condition. The real causes for chorea and epilepsy have never been satisfactorily explained; and even if they were, it is not likely that two different causes would be found to produce the two diseases in one individual. The entire matter of the pathology is theoretical and there is as much reason in this statement as the majority of the opinions already advanced.

S. Weir Mitchell† reports a case of chorea in a girl

* Rosenthal, "Diseases of the Nervous System."

† Mitchell, "Diseases of the Nervous System."

whose brother was epileptic. This, like the others, is indicative of the fact that there is a probable unity of the lesions, except as I have said, there is a difference in degree.

C. Hanfield* Jones says :

The causes which induce epilepsy are partly physical, partly immaterial. * * * * There are both predisposing and exciting causes. They require, however, a certain amount of predisposition in the nervous centers to become operative. * * * * Sudden fright seems to rank rather higher as an exciting cause. Copland endorses Esquirol's statement that fits of passion, distress of mind and venereal excesses hold the next rank to terror in exciting the disease. *This shows the relation of the malady to chorea, which is so commonly caused in the predisposed by fright.*

The author makes his comparison between chorea and epilepsy by maintaining that the same exciting causes which produce epilepsy produce chorea and by this undoubtedly means inciting into activity the morbid or perverted centers in the brain, which were dormant until this exciting cause propelled them into action and this reasoning necessitates the close similarity of the conditions in the brains of an epileptic and choreic.

In describing in his article on chorea, the various phases which the disease presents, he says that always in the one-sided form of the disease the encephalon is involved, also in those cases where there is an impairment of the mental faculties, the cause must of necessity be in the brain.

A. B. Arnold† reports the following case :

Male, aged 23 years. Suffered at irregular periods from violent palpitations of the heart, attended by rapid rotary movements of the head. Movements not observed during sleep. In other respects he was supposed to enjoy good health. * * * * He is now frequently attacked by an indescribable sensation in the cardiac region, which travels upward in the direction of the left shoulder, arm and hand.

This is immediately succeeded by rhythmical movements of the affected extremity from right to left and accompanied by sensations which the patient compared to electric shocks. At no time was there loss of consciousness. Family history is not good; his oldest brother died in

* Jones, "Clinical Observations on Functional Nervous Disorders."

† Arnold, "Manual of Nervous Diseases."

an asylum after having been affected with life-long epilepsy. * * * A sister suffers from hysterical convulsions. Thinking this case might be of an epileptic nature, I ordered bromide with decided benefit.

The author had good reason to suppose that this was not a simple case of chorea, both from the family history and the signs and symptoms presented. My own opinion in regard to this case is that it was a case of chorea on the verge of epilepsy and that the individual in time would become an epileptic.

Ranney* in his recent work cites the following case:

Female, 11 years of age, idiot. Had both epilepsy and chorea; could not walk, drooled constantly; talked unintelligibly, could scarcely sit in a chair so violent were the choreic movements; epilepsy both diurnal and nocturnal.

This case, the author claims, was due to a refractive error of the eyes and after proper interference the patient regained her mental equilibrium and was cured of the epilepsy and chorea. I mention this case as one showing a combination of chorea, epilepsy and insanity.

Putzel† gives the following cases:

CASE I.—Male, aged 8 years. Patient's great grand-aunt insane; grandfather died of apoplexy; grand-uncle an inebriate; a brother suffers from epilepsy; mother nervous and hysterical. * * * When three weeks old he suffered from pneumonia and had a number of convulsions during his illness; also had two convulsions at the beginning of an attack of measles. * * * Two years ago began to have choreiform twitchings, which grew worse in the spring, but almost entirely disappeared after the lapse of a year. But even at present considerable muscular twitching becomes apparent if the patient is very much excited. When he is calm the choreiform movements are not noticeable. A short time after he began to develop evidences of insanity, became insubordinate at school, ugly, etc.; had delusions of sight and hearing—was destructive; sleepless unless some hypnotic was administered. It was said he never had convulsions of late, but complained of "waking up tired;" was somewhat suicidal.

This author goes on to say that the patient's insane condition was not constant, but alternated with lucid intervals. This is an interesting case, besides being a good one for the point I wish to bring out. First let us

* Ranney, "Nervous Diseases."

† Putzel, "Functional Nervous Diseases."

consider the family history and we find a record of insanity, inebriety and apoplexy. Second, the patient in infancy had convulsions, which in all probability were epileptic in character. Third, he had well-marked chorea. Fourth, he finally developed insanity, and fifth, this insanity resembled that associated with epilepsy, in that there were lucid intervals and in its irritable, suicidal and aggressive nature. The point I wish to bring out especially in this case is the association of insanity with chorea as well as with epilepsy.

In regard to psychical disturbances in connection with chorea, Von Ziemssen* says: "They are rarely absent, though in the lighter cases they are but little developed." In commenting on this case Putzel says:

Chorea is also associated, at times, with other convulsive affections, especially epilepsy. More frequently we find that epilepsy develops in other members of the family. In rarer instances a child who is choreic in early life becomes epileptic in early manhood and finally presents evidences of insanity. Such a condition is almost invariably indicative of a severe hereditary neuropathic tendency. Among the cases (chorea) under my care, four were complicated with epilepsy. The chorea may follow the epileptoid seizures, or may precede them by a variable period. Epileptic seizures may occur during the progress of the chorea, as occurred in one of my patients who presented the following history: Female, aged 17 years; family history entirely negative as regards any hereditary tendencies. * * * * The menses appeared at the age of thirteen and have been regular and normal up to the present time. The patient has suffered from left hemichorea for the past five or six years. The disease developed gradually and without any known cause. Upon repeated inquiry it was found that the patient has masturbated almost daily since she was four years of age. The choreiform movements present a moderate intensity and are exclusively confined to the left side of the face and body. They have continued uninterruptedly, disappearing only during sleep. * * * * About four years ago the patient began to have "weak spells" (*petit mal*), during which she became unconscious. She sometimes awakens in the morning feeling tired and worn-out (possibly from nocturnal epilepsy). She has on an average about one epileptic attack a month, but its development does not appear to be related in any manner to the period of menstruation. During the past six months the patient's memory has become somewhat impaired and during the past two months she has become quite cross and irritable.

* "Cyclopædia of the Practice of Med.," Vol. IV., page 438.

In speaking of this case, the author says:

In this case, although the choreiform movements have continued for a number of years and were always confined to one side of the body, the absence of headache, eye trouble, disorders of the cerebral nerves and paralysis of motion or sensation in the limbs, precludes the idea of an organic lesion as the cause of the chorea or epilepsy. It is much more probable that both affections are functional and that the more severe neurosis (epilepsy) is due, in absence of any hereditary taint, to the long-continued habit of masturbation, added to a primary (perhaps congenital) increased irritability of the nerve-centers.

To my mind the author has laid too much stress on masturbation as a cause of the epilepsy or chorea. It is scarcely possible or probable that a case of hemichorea complicated with epileptic convulsions can be due to masturbation. In fact, I do not think it possible to preclude a lesion of the nerve-centers in such a case. I have noticed that among the epileptics and choreics (males) under my charge in this hospital that very few are masturbators. Moreover, Dr. Putzel gives as a secondary cause: "A primary (perhaps congenital) irritability of the nerve-centers." Had he reversed the order and made masturbation the secondary cause, I think his theory would have been nearer correct.

These cases I have quoted in evidence of my statement that, in conjunction with chorea and epilepsy, or with the former alone, as with the latter, insanity is developed.

Clouston* speaks of the insanity of chorea and also quotes Arndt, who says:

I do not believe in the existence of chorea without more or less simultaneous affection of the intellectual faculties. The abnormal movements are mere symptoms of a much more extensive disorder involving the entire nervous system.

Spitzka† scoffs at the idea that in choreic children the mind is affected any more than in other diseases of childhood, but he says:

In protracted cases of chorea the mind suffers in the direction of actual insanity; in that case maniacal outbreaks, confused delirium,

* *Journal of Mental Science*, Vol. XVI., page 210.

† Spitzka, "Manual of Insanity," page 372.

enfeeblement of the memory, rapid emotional change and in extreme cases dementia may ensue. It is a psychosis with these symptoms which is designated as *choreic insanity*.

Clouston maintains that in cases of chorea there is always some form of insanity and that this insanity is a mental imbecility and finally he calls it the "ordinary dementia," which follows all "long-continued *mental* disease." The latter author very properly, I think, classes chorea among mental disorders and also believes that no person can have chorea without some mental disturbance.

I think we can safely say in regard to the co-existence of insanity and these two neuroses that mental disturbance of some kind is always present in epileptics and rarely absent in choreics and never when the latter disease has become chronic.

Arndt,* who first called attention to the relationship between chorea and insanity, says :

In many cases where the insanity is developed, it is only a transfer of the chorea from the motor to the intellectual centers of the brain.

To press my point, it might be said that chorea was a slow and gradual discharge of nerve force affecting the motor and intellectual centers evenly, while epilepsy was a sudden and forcible discharge of this nerve-force, utterly prostrating these centers.

Krafft-Ebing† makes three divisions of choreic insanity, viz., mania, melancholia and a form marked by persecutory delusions. He might also have added imbecility and dementia.

That chorea is a cause of insanity there can be no doubt. It may be that in a given family there is a well-marked neurotic taint which in a certain individual may cause chorea, while other members of the same family are perfectly sound, bodily and mentally. The one case having chorea after a time develops insanity.

In such cases I maintain that the chorea is the cause of the insanity, while the neuropathic tendency is the

* Arndt, Arch. f. Psych. Bd. I.

† "Handb. f. Psychiatrie," Bd. I., 1879.

cause of the chorea. In regard to the insanity accompanying or following epilepsy, so much has been said that it would be useless to discuss it here, except to say that the same conditions may be present as in the choreic insanity, *i. e.*, the family history may be bad without actual insanity existing. This neurotic predisposition gives rise to epilepsy in one or more members and the epilepsy in turn causes the insanity. As in one of the cases cited, there may be a slower evolution and we may have first chorea, this develops into epilepsy and finally causes the insanity, or all three may be present together. To concentrate the whole idea, chorea and epilepsy are both causes of mental disturbances and there is a great similarity between choreic and epileptic insanity.

When I first thought of writing on this subject I concluded that hospitals for the insane were the most fruitful sources for such cases; and I consequently addressed a circular letter to the superintendents of a number of our institutions, containing the following questions:

1. What is the population of your institution?
2. How many cases have you in which both epilepsy and chorea exist?
3. How many cases of epilepsy which have a history of chorea before the development of the epilepsy?
4. (*a*) Are the choreic movements continuous or is there some cessation, (*b*) localized or general?
5. Type of epileptic seizures?
6. Age at which chorea began?
7. Length of time epilepsy has existed?
8. Family history?
9. Form of insanity?
10. Age?
11. Sex?

I will give the notes of the cases sent me, together with the name of the hospital, the medical officer reporting the case and the population of the institution:

CASE I.—State Insane Asylum, Salem, Oregon. W. T. Williams, M. D., First Assistant Physician. Population 613. One case in which both chorea and epilepsy exist. Male, aged 64 years. Had chorea for thirteen years. Choreic movements are continuous during the day but cease when he is sleeping; are general, but more marked in upper extremities and facial muscles.

Epileptic attacks are of the grand mal type, very severe, "utterly prostrating the patient both mentally and bodily," and temporarily controlling the choreic movements. Family history negative. Type of insanity, dementia.

CASE II.—Eastern Asylum for the Insane, Pontiac, Mich. C. B. Burr, M. D., Superintendent. Population 985. One case in which chorea and epilepsy exist. Male, aged 15 years. Has had chorea for two years. The movements are noticed at intervals and then only for a brief period. Time epilepsy has existed is not known. Father was intemperate. Form of insanity, dementia.

CASE III.—State Lunatic Hospital, Taunton, Mass. J. P. Brown, M. D., Superintendent. Population 673. One case in which both chorea and epilepsy exist. Male, aged 40 years.

Was admitted at the age of thirty-five and was then a pronounced case of epilepsy, and it is supposed that epilepsy was the cause of his insanity. Not known how long the chorea has existed. The epileptic attacks, less frequent than formerly, occur three or four times a month. In 1885 he had them daily. They are of a mild type and there is often stupor resulting from the attacks. Choreic movements are not constant or general. Sometimes only the hands and arms are involved. No history of heredity. Type of insanity, dementia.

CASES IV., V, VI., VII.—North Dakota Hospital for the Insane, Jamestown, N. D. O. Wellington Archibald, M. D., Superintendent. Population 219. One case in which chorea and epilepsy co-exist and three which have a history of chorea preceding the epilepsy.

(iv.) Female, aged 12 years. Has had epilepsy for about four years. She has seven or eight convulsions a month and these occur midway between the menstrual epochs. There is an hour or so intermission between the

convulsions. Chorea began when three years of age and is confined especially to the face and upper extremities. Family history good. Form of insanity, imbecility.

(v.) Male, aged 19 years. Chorea began when he was a baby and lasted three years. Epilepsy began when seventeen years of age. Family history negative. The epileptic convulsions are of the grand mal type.

(vi.) Female, aged 17 years. Had chorea for about six years before admission, but no movements have been noticed since her admission to the hospital three months ago.* Epileptic convulsions of grand mal type. Has been epileptic for one year. Family history negative. Form of insanity, epileptic mania.

(vii.) Female, aged 7 years. Had chorea between one and three years of age. Epileptic convulsions are of the grand mal type. Has been epileptic for about one year. Family history good as far as can be learned. Is an imbecile.

CASE VIII.—State Lunatic Asylum, Trenton, N. J. John W. Ward, M. D., Superintendent. Population 768.

There is no case in this institution now, but Dr. Ward has kindly furnished me with notes of a case which was there some time ago, but has since died.

The case was one in which chorea and epilepsy co-existed. Female, aged 8 years. Had chorea at time of admission, and after she had been an inmate of the asylum for a few weeks, it was found that she was an epileptic and had been since dentition. She was an inmate for twelve or thirteen years and was then removed to a general hospital, where she died. Family history good. Form of insanity, epileptic dementia.

CASE IX.—State Hospital for the Insane, Binghamton, N. Y. Population 1,103. Harris Rodgers, M. D., Assistant Physician. One case in which chorea and epilepsy are present. Female, aged 60 years. Has had epilepsy for twenty years. The length of time she has had chorea is not known. Epilepsy is nocturnal and of a mild type. Family history of insanity. Form of insanity, dementia.

* Notes on this case received July, 1890.

CASES X., XI.,—State Hospital for the Insane, Danville, Pa. Gros. R. Trowbridge, M. D., Assistant Physician. Population 995. Case X. has both chorea and epilepsy. Male, aged 17 years. Has had chorea for ten and epilepsy for two years. Chorea most marked in the shoulders, neck and arms.

In this case when the choreic twitchings are most violent there is a cessation of the epilepsy, but when the choreic movements subside the epilepsy is more active. Mother is nervous and irritable, maternal grandfather insane. Form of insanity, imbecility.

(xi.) Male, age 26 years. Had chorea until fourteen years of age. At this time the chorea ceased and epilepsy began. On one or two occasions since his admission here there has been a slight return of the choreic movements. Family history negative. Form of insanity, imbecility.

CASE XIII.—Northern Michigan Asylum, Traverse City, Mich. James D. Munson, M. D., Superintendent. Population 625. One case of epilepsy preceding chorea. Male, aged 65 years. Was subject to epilepsy between fifty-four and fifty-nine years of age, or for about five years. Has been an inmate of the asylum since October, 1887. Has had no epileptic convulsions since admission. Has choreic twitchings, but there is no record of the time he has had chorea or of the family history.

CASE XIII.—State Hospital for the Insane, Fort Steilcoom, Washington. John W. Waughop, M. D., Superintendent. Population 350. One case of epilepsy with previous history of chorea. Female, aged 11 years. Has had no chorea since admission, but is an epileptic. Had chorea for six years and following it, epilepsy for five. Convulsions are of grand mal type. One uncle insane. Form of insanity, imbecility.

CASE XIV.—Retreat for the Insane, Dorchester, Mass. Edward B. Lane, Assistant Physician. Population 158. One case of chorea with history of epilepsy. Male, aged 19 years. Had "fits" until five years of age. At this time chorea began and has continued ever since. Has been in the hospital since June, 1888. No epileptic seizures since admission. Family history good. Type of insanity, imbecility.

NAME OF HOSPITAL.	Population.	Number of Cases in which both Chorea and Epilepsy exist.	Number of Cases having a history of Chorea before the development of Epilepsy.	Number of Cases having history of Epilepsy before the development of Chorea.	Time Epilepsy has existed.	Time Chorea has existed.	Family History.	Form of Insanity.	Age.	Sex.	REMARKS.
CASE I.—State Insane Asylum, Salem, Oregon.	618	One..	.....	.....	Not known	About 13 years.	.....	Dementia	64	M.	Choreic movements are continuous except during sleep, when they ceased. Epileptic seizures of grand mal type.
II.—Eastern Michigan Asylum, Pontiac, Mich.	985	One..	.....	.....	Not known	About 2 years.	Father intemperate.	Dementia	15	M.	Choreic movements occur at intervals.
III.—State Lunatic Hospital, Taunton, Mass.	673	One..	.....	.....	20 years.	Not known	.....	Dementia	40	M.	Epilepsy probably came on before the chorea. Choreic movements especially marked in hands and arms.
IV.—(a) N. Dakota Hospital for Insane, Jamestown, N. Dak.	219	One..	.....	.....	4 years.	9 years.	Good as far as known.	Imbecile	12	F.	Epileptic seizures occur about once a month. Chorea confined to upper extremities and face.
V.—(b) N. Dakota Hospital for Insane, Jamestown, N. Dak.	219	.....	One.....	.....	Since 17 years of age	From birth and lasted 3 years.	Negative.	.....	19	M.	Epilepsy of grand mal type.
VI.—(c) N. Dakota Hospital for Insane, Jamestown, N. Dak.	219	.....	One.....	.....	Not known exactly.	For about 6 years.	Negative.	Epileptic Mania.	17	F.	No chorea since admission a few months ago. Epilepsy of grand mal type.
VII.—(d) N. Dakota Hospital for Insane, Jamestown, N. Dak.	219	.....	One.....	.....	About 1 year.	Between 1 and 3 years of age.	Good as far as known.	Imbecile	7	F.	Convulsions are of grand mal type.
VIII.—State Lunatic Asylum, Trenton, N. J.	768	One..	.....	.....	Since dentition (8 years.)	Unknown.	Good	Dementia	20	F.	Patient died after being discharged.

NAME OF HOSPITAL.	Population.	Number of Cases in which both Chorea and Epilepsy exist.	Number of Cases having a history of Chorea before Epilepsy.	Number of Cases having history of Epilepsy before development of Chorea.	Time Epilepsy has existed.	Time Chorea has existed.	Family History.	Form of Insanity.	Age.	Sex.	REMARKS.
IX.—State Hospital for Insane,inghamton, N. Y.	1103	One..	.....	.....	About 20 years.	Unknown.	History of Insanity.	Dementia.	60	F.	Epilepsy is nocturnal.
X.—State Hospital for Insane, Danville, Pa.	995	One...	.....	.....	About 2 years.	10 years.	Mother nerv's and irritable. Maternal grandfather insane.	Imbecile	18	M.	Chorea most marked in face, neck, shoulders and arms.
XI.—State Hospital for Insane, Danville, Pa.	995	One.....	.....	.....	About 12 years.	About 14 years.	Negative.	Imbecile.	26	M.	Chorea has only appeared two or three times since admission. Epilepsy grand mal type.
XII.—N. Michigan Asylum for Insane, Traverse City.	625	.....	.....	One.....	Between ages of 54 and 59 years.	Unknown.	.....	.....	65	M.	
XIII.—State Hospital for Insane, Fort Steilacoom, Wash.	350	.....	.....	One.....	5 years.	6 years.	One uncle insane.	Imbecile.	11	F.	Chorea ceased when epilepsy began.
XIV.—Retreat for the Insane, S. Boston.	158	.....	.....	One.....	Until 5 years of age.	Not known.	.....	Imbecile.	19	M.	
XV.—State Asylum for Insane, Morris Plains, N. J.	834	.....	One..	.....	Between ages of 2 and 7 years.	Since 1887	Good.	Epileptic Mania (?)	24	F.	No return of Chorea since development of epilepsy.

CASE XV.—State Asylum for the Insane, Morris Plains, N. J. Population 834. C. M. Hay, M. D., Assistant Physician. One case of epilepsy with history of chorea. Female, aged 24 years. At age of two years developed chorea. This began gradually and increased to a violent form of the disease, continuing until she was seven years of age, when it ceased. During the following year she developed epilepsy, which continued until March, 1887. Shortly after her last convulsion she had attacks of maniacal excitement and in consequence was committed to this asylum in March, 1888. About once in three months she has an ordinary attack of grand mal, typical in all respects.

The data to be gathered from these fifteen cases are as follows: Of the fifteen there are seven in which chorea and epilepsy were present simultaneously; five which have a history of chorea preceding the epilepsy and three which had chorea before epilepsy developed.

Of the twelve possible cases (excluding XII., XIII. and XIV.), there are seven (IV., V., VI., VII., X., XI. and XV.) which show the existence of the chorea before the epilepsy, while in only three (XII., XIII., XIV.) is there a history of epilepsy preceding chorea. This leaves five (I., II., III., VIII. and IX.) undecided, but it is fair to conclude that in cases of this nature chorea more often precedes than follows epilepsy. In cases I., III., IV. and X. the choreic movements were especially marked in the upper extremities and face.

In cases I. and X. the epileptic paroxysms, when present, controlled the choreic movements. In cases XIII. and XV. the chorea ceased when the epilepsy began—in other words the former disease was merged directly into the latter.

In cases I., V., VI., VII., XI., XIII. and XV. the epileptic convulsions were of the grand mal type. Of course, all these cases are afflicted with some form of insanity, but it is interesting to note the various forms of mental disease. Five are cases of dementia; six are imbeciles; two are cases of epileptic mania and in the remaining two the type of insanity was not given.

In case V. there was a long intermission between the cessation of the chorea and the commencement of the epilepsy.

The conclusions I have drawn on this subject are as follows :

First. There is an intimate relation between epilepsy and chorea ; both diseases being due to disturbances of the motor and intellectual centers of the brain, which differ only in the degree of intensity.

Second. Chorea predisposes toward epilepsy and epilepsy toward chorea—the former being the most frequent condition.

Third. Chorea in one generation may be transmuted as epilepsy in the next or succeeding generations, or the epilepsy may appear first and the chorea in the following generations.

Fourth. That a neurotic taint in the parent or parents may make one child choreic and another epileptic.

Fifth. The diseases may exist simultaneously but in these cases they are in inverse ratio, *i. e.*, the more violent the chorea the less frequent and severe the epileptic convulsions and *vice versa*, the more violent the epilepsy the less marked are the choreic movements.

Sixth. That in cases of chorea and epilepsy there is more or less mental impairment.

Since the completion of this article there has been admitted to this hospital a female who has both chorea and epilepsy, but unfortunately there was no history of the case. She has well marked chorea and her epileptic convulsions are of the grand mal type. Her walking and conversation are impeded by the choreic movements. Mental condition, imbecility.

I am indebted to the Superintendent, Dr. H. B. Meredith, for the notes on this case.

To all the gentlemen who have so kindly answered my circular-letter, I wish to extend my sincere thanks, as I realize that in a great many cases they must have spent considerable time and trouble in their replies.

The Virile and Other Nervous Reflexes.*

By C. H. HUGHES, M. D., St. Louis, Mo.,

Professor of Neurology in Marion-Sims College of Medicine, Etc.

IN a previous communication on this subject (*vide* ALIENIST AND NEUROLOGIST for January, 1891), I have called attention to the fact that in a perfectly healthy individual, whose spinal cord is entirely normal, especially in its genito-spinal center, placed supine on a couch without head-rest, nude about the loins, the sheath of the penis made tense by claspings the foreskin with the left index finger and thumb at about the place of the frænum and pulling it firmly toward the umbilicus, placing the middle, ring and little finger low down upon the dorsum of the virile organ, the dorsum or sides of the penis, near the perineal extremity, then sharply percussed, a quick and very sensible reflex motor response or retraction of the bulbo-cavernous portion will be felt to result from this sudden percussional impression, like that which follows, though less pronounced, in the testicles, after sensory irritation of the inner aspects of the thighs and known as the cremasteric reflex, with this difference only, the cremasteric reflex is a sudden upward movement of the testicle of the side irritated, while the virile reflex is a sudden downward jerk. While this reflex, like all reflexes with which I am familiar, is away from the irritating afferent impression, it is in marked contrast with the patellar tendon phenomenon in being away from the heart instead of toward it, as so many reflex movements are. It differs from the ordinary penile erection and must not be mistaken for it (for it cannot properly be called an erection) in this respect, too, viz., that it is downward

* Abstract of a supplemental paper read before the Section of Medical Jurisprudence and Neurology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

and not upward and proceeds always from a peripheral and external irritation; whereas, erections more often proceed from direct central (cerebral) impression proceeding downward and outward.

Its action corresponds to the œsophageal reflex, or reflex for swallowing.

As I said in my first communication, some skill in palpation—a sort of *tactus eruditus*—is necessary in examining for this sign, the characteristic jerking back of the bulbous urethra within the sheath of the penis being felt only when carefully sought for. It is not ordinarily to be seen.

I have found the sign absent in cases like the following: Pupils unequal, patellar reflex exaggerated and other evidences of *sclerose en plaques*, with history of syphilis and acknowledged feeble virility and diagnosis by a competent ophthalmologist of optic atrophy. I believe it will be found to be quite generally absent when there is optic atrophy, unequal pupils and other evidences of cerebral sclerosis, or multiple cerebro-spinal disease of this nature. I have found this sign absent in the status epilepticus, but not necessarily modified in hemiplegia and have seen it exaggerated in cerebral paraplegia.

The following clinical records, made since my first report on this subject, add additional confirmation to the significance of this sign:

CASE I.—Mr. J. B., aged 23, single, locomotive fireman, first presented himself for treatment at my office July 11, 1891, when I obtained the following history: Some three years ago, in alighting from his locomotive running at the rate of 15 miles an hour, he sprained his back, but it did not give him much trouble at that time. About three weeks ago, while perspiring freely, he “caught cold” and the perspiration suddenly stopped—from this patient refers present trouble, though he had an attack of *la grippe* in February and about latter part of April he noticed impairment of right leg. Some four years ago he indulged in sexual intercourse to excess—upon one occasion had connection seven times in twenty-four hours.

He has had no inclination for sexual intercourse lately; thinks he has had sexual desire but a half-dozen times during the past two years.

Bowels constipated, for which he resorts frequently to purgatives. Had an attack of vertigo to-day and fell to the floor while in the act of yawning. Pulse (sitting) 66; upon slight exertion (walking about the room) pulse increases to 78. Right knee-jerk abnormal; R. quadriceps clonus marked up to origin of muscles—a slight tap below right patella (not sufficient to produce patellar reflex) will cause quadriceps muscle to vibrate. R. knee response below normal, left knee-jerk impaired, no quadriceps clonus. R. gastrocnemius reflex normal; R. plantar and solar reflexes exaggerated and clonus follows reflex excitation; plantar surface of right foot hyperæsthetic. Flexion of right foot incomplete one-half, rotation impaired one-half, flexion and extension impaired about one-half. While sitting he can only lift right leg and thigh about three-fourths as compared to left. Has head and backache. No spinal tenderness, tender over crest of right ilium and beneath ribs of right side.

Æsthesiometric tests of finger-tips give normal results. Numbness of left great toe, but no abnormal æsthesiometric sign. Has slight right scrotal hernia; has phimosis.

CASE II.—Mr. Chas. E. H., 21, occupation farmer; single; applied at my office for treatment August 15, 1891 and gave the following history: About a year ago he slept on the damp ground for five successive nights, each morning he felt stiff and head was very sore. As the effect of this he was sick in bed with fever for a week or more, legs were paralyzed, bowels constipated and urine retained—was catheterized several times. He was attended by two local physicians. Says he suffered severe pain during first three weeks of illness and was troubled with erections. Patient's present condition is as follows: Pulse 90 (patient sitting) and full temp. 100° Fah., appetite and digestion good and sleeps well; no erections at present. Some pain in lumbar and sacral region. Crosses right leg over the left with difficulty, cannot lift leg without the assistance of hands, cannot stand alone. Patellar tendon reflex is absent, virile reflex present, but impaired, cremasteric reflex normal and has abdominal reflex. Has never had syphilis or any zymotic disease.

I select and epitomize a few cases from my earlier records, in which this reflex was either impaired or absent permanently or periodically, as follows :

The first three were middle-aged; of these the first was married and gave a history of syphilis; brewer by occupation; erections feeble; white atrophy of retina, unequal pupils—left larger than right; vision obscure in both eyes; cerebro-spinal sclerosis (multiple and lateral); reflex absent.

The second gave a history of former syphilis, though at time of observation he was in good flesh and general health excellent; miller and merchant; lives in country; impotent—seldom has erections, but at times has good erections and completes the sexual act; reflex greatly impaired when examined.

The third is impotent; fails to have erections; reflex always absent.

The next two are children under twelve years of age : of these the first is a country boy and has epilepsy mitior; the second, also a country boy, has epilepsy gravior. Reflex scarcely perceptible on repeated examinations since the first test.

Another case was that of a civil engineer, single, aged about 28, with nocturnal epilepsy from excessive masturbation; reflex absent.

Additional experience since the discovery of this important diagnostic sign only confirms the conviction uttered in my first paper, viz., it should receive further consideration at the hands of neurological clinicians, for it appears worthy a place in clinical neurology with Westphal's paradoxical contractions, Erb's reaction of degeneration, or any of the hitherto recognized diagnostic reflexes, or clonuses.

I have found an analogous reflex to this phenomenon in healthy females.

It may be elicited in normally vigorous persons when that condition of the organ is present that we find co-existent with a desire for coitus, when the sexual act is

about to commence and shortly after coitus, if the sexual desire has not been gratified to satiety. It can be evoked during priapism and during penile relaxation, if power for a second coitus remains in the organ.

In conclusion, I think we are on the verge of further most important discovery in the direction of physiological and pathological reflex phenomena and on the verge of an enlarged comprehension of their value in diagnosis and prognosis. I believe that every part of the body supplied by an afferent (sensory) nerve communicating with a center, whether cerebral, spinal or ganglionic, capable of an efferent or motor response, will be found susceptible under appropriate stimuli (electrical, mechanical or special) in normal or pathological state, responsive in some way and that this plus or minus responsiveness is yet to have far more remarkable value in clinical estimation than is now accorded it or dreamed of in medical minds. For instance, in our clinical investigations, we take into consideration such purely physical reflexes (in addition to the cardiac and visceral movements) as the palpebral, pupillary, naso-pharyngeal, vesical, cremasteric, anal and the tendon reflexes of the lower and upper extremities, normal and abnormal and the clonuses which are of the nature of reflex phenomena prolonged into rhythmical movements.

Many of these are more or less influenced by conditions of psychical inhibition.

Then we have in disease often to consider the state of the psycho-physical reflexes, as the involuntary shedding of tears, unintentional or causeless weeping, involuntary and unsuppressible laughter, shouting, involuntary exclamations of various kinds, as of fear, disgust, joy, etc. and sudden involuntary and unrestrainable psycho-motor responses of various kinds, virile erections under erotic psychical impressions. These latter are downward influences, reflex responses from psychical excitation through peripheral impressions transmitted through sight or other senses, or originating altogether in ideational center.

Then we have the psychical responses to peripheral impressions, such as the sudden mental states and expressions following physical impressions, like the immediate outcry of peripheral pain—the true nature of a reflex phenomenon wherever we find it being a peripheral impression transformed into an immediate, or almost immediate, motor response or expression.

If we take into consideration how much of our power for regional diagnosis has been aided within the past few years by what we already know of these reflexes, especially of the knee-jerk, Achilles reflex, the foot clonus, the anal, vesical, cremasteric and virile, how much more may we not hope for with confidence, if we but persevere in our search for yet unknown manifestations of these phenomena? I have already elicited in certain moribund states, an oral reflex, as heretofore announced and a physiological anal reflex and have confidence even before its announcement, not knowing it was new, much that Rosolimo asserts concerning the reflex of the anal sphincters, this latter reflex serving as an especially valuable differentiating test where sexual failure is to be early distinguished from commencing vesical or rectal paralysis.

Some Points in the Diagnosis and Nature of Certain Functional and Organic Nervous Diseases.*

By J. T. ESKRIDGE, M. D., Denver, Colorado,

Formerly Post-Graduate Instructor in Nervous Diseases in the Jefferson Medical College and Physician to the Hospital of the College; Neurologist to Arapahoe County, St. Luke's and Deaconess Hospitals.

LITTLE by little is knowledge gained. This is especially the case in regard to a knowledge of the medical sciences. Facts accumulate slowly. It is rarely allotted to one mind to add more than what seems to be a trifle to our stock of knowledge. When a supposed great discovery is announced the medical world is "all agog" to see who can be the first to verify it, but it is exceedingly rarely that much advance is made in this way. It is to him who by careful and painstaking observations adds his mites to the facts accumulated, that we are indebted for the steady progress in medicine. In an admirable paper, entitled "On Some Points in the Action of Muscles," which appeared in the Spring Number of *Brain* for the present year, Dr. C. E. Beevor, of England, submitted, in conclusion, the following:

1.—Examination of the Muscles, when they are visible, in contraction on the living body, gives the most exact results as to their actions.

2.—The antagonists of a muscle cannot be observed to contract in violent voluntary movements. In slow, moderate movements, it is doubtful if the antagonists do more than moderate the fall of the limb by gravity, while in very fine, exact movements, it is probable that both sets of muscles act together.

3.—As far as we know there is no instance of a muscle producing an action diametrically opposite to its usual action.

4.—A muscle of the limbs can be paralyzed for one kind of movement and not for another.

* Read by invitation before the El Paso County Medical Society, Colorado Springs, Colorado.

5.—And this condition would point to the lesion being in the nuclei of the spinal cord or its roots and not in the peripheral nerves or (in) the muscles primarily.

I have seen within a few months five cases that illustrate the importance of a study of the action of certain muscles for the purpose of diagnosis.

I have studied the action of the pectoralis major muscle only in investigating differences exhibited by muscles paralyzed by brain or cord lesions. This muscle, as you are aware, is composed of two parts, the sternal and clavicular fibers. The clavicular portion aids in elevating the humerus and in holding it at right angles to the body when weights are held in the hand. The sternal portion is a depressor of the humerus. Thus when one portion of this muscle acts separately it becomes an antagonistic to the other fibers and draws the humerus in a directly opposite direction to that given by the contraction of the opposing fibers. Both sets of fibers act together as one muscle in carrying the arm across the front of the chest. The sternal portion seems to exert the greater force in carrying the hand to or beyond the median line of the body, when the arm is hanging by the side of the body and the clavicular portion the greater force when the arm is held at right angles to the chest by the deltoid, unless force is opposed to the movement, when both sets of fibers come out prominently in contraction.

The normal action of the pectoralis major muscle is best studied when the chest is bare and probably it can be as well observed on one's own person as on that of another.

Beevor thus describes his method of examining the action of this muscle :

Voluntarily abduct the humerus away from the chest wall by the deltoid to the horizontal line, then slowly carry the arm horizontally forwards towards the middle line and at a certain angle, which varies with different people, the upper fibers of the pectoralis major suddenly start out and carry on the movement. If now the advanced humerus be voluntarily forcibly carried against an obstacle towards the middle line,

the whole muscle, including the upper and lower fibers, contracts vigorously. Again, if the horizontally advanced arm be raised upward against an obstacle, as in holding a dumb-bell out straight in front, the upper fibers alone contract and the lower sternal fibers relaxing, the sharp edge of the contracting upper fiber can be readily felt and seen. On the other hand, if the humerus be then depressed from that position by pressing down on a mantel-piece, the upper clavicular fibers are relaxed and the lower sternal fibers are vigorously contracted:

Dr. Beevor states that he accidentally discovered that this muscle might be paralyzed for one movement and not for another; and that while the upper fibers failed to contract in attempts to raise the arm, they contract quite vigorously when acting in association with the lower sternal fibers in carrying the arm across the front of the chest. He believes that when this muscle is affected for one motion and not for another, or has one set of fibers partially or totally paralyzed, the other portion of the muscle acting normally, the lesion producing the paralysis is in the spinal cord and not in the brain, nerves or muscles primarily.

The first opportunity I had to test the value of Dr. Beevor's conclusions, after reading his paper, was in a case seen in consultation with Dr. Tucker, of Colorado Springs, in the person of a little girl, about ten years of age. The diagnosis was between multiple neuritis and acute poliomyelitis anterior. The asymmetry of the paralysis and its irregular distribution, with the total absence of any objective sensory disturbance, pointed quite conclusively to poliomyelitis. The clavicular portion of each pectoralis major failed to contract in attempts to elevate the arm, although the sternal and clavicular portions acted together in resisted efforts to bring the arm across the chest. Owing to the extreme illness of the child on account of the involvement of the cervical region of the cord, only the most superficial examination was made into the action of the pectoralis major in this case, and I felt undecided as to whether we had in this method of examining into the actions of muscles another reliable means of differentiating poliomyelitis from multiple neuritis. Everyone who has

seen many cases of either disease at times feels sorely puzzled in regard to the diagnosis, especially so when he knows that occasionally both affections may occur at the same time in the same individual.

At present I have four patients (one a hemiplegic from brain lesion, the second a cripple from chronic polio-myelitis, and the third and fourth suffering from acute polio-myelitis) in the Arapahoe County Hospital, on whom I have repeatedly and carefully studied the actions of the great pectoral muscles, as well as the irritability of the clavicular and sternal portions to electricity.

CASE I.—A hemiplegic, right-sided paralysis with motor aphasia extending over a period of two years. The great pectoral muscle is paralyzed for all its movements, but each portion of the muscle responds nearly normally to the faradic current.

CHRONIC POLIO-MYELITIS.

CASE II.—J. R., æt. 30, tinner, whose arms have been getting weaker for two or three years, entered the hospital about two months ago. There is great wasting of the muscles of the arms, more marked below the elbows. The triceps and biceps of each arm are weak and small. The deltoids are rather weak, but still retain sufficient power to bring the arm to the horizontal position. They are not as much wasted as is usually the case in this disease. The pectoralis major muscles are both extremely weak and wasted, the left being more affected than the right. The trapezii are wasted, the left to a greater extent than the right. The latissimus dorsi of each side is paralyzed and atrophied. He is unable to voluntarily elevate the left arm above the horizontal line. There is no objective or subjective sensory disturbance. The anterior tibial muscles are weak, allowing the feet to drop in walking.

Pectoralis Major: Right—The superior fibers stand out prominently in aiding in holding the arm in the horizontal position and become more prominent in contraction when an effort is made to raise the arm above the head. The sternal fibers remain quiet. I now hold the arm in the horizontal position in front of the chest and request him to bring it down against the resistance offered by my hand. In the attempt to bring the arm down the shoulder

rises before any of the fibers of the muscle contract, and finally a few of the inferior fibers contract, but exert but little force although he does his utmost to bring the arm down, and the extraordinary effort causes the superior fibers to contract and counteract the force exerted by the opposing portion of the muscle. The superior fibers carry the arm over the front of the chest while the inferior fibers remain at rest, but when resistance is offered to this movement a few of the inferior only contract. The superior portion of the muscle reacts more readily to electricity than the inferior.

Left.—The action of the muscle and its reaction to electricity is about the same as on the opposite side, except that the superior fibers are weaker on this than on the right.

ACUTE POLIO-MYELITIS WITH SOME PERI-NEURITIS.

CASE III — J. W., æt. 42, plasterer, has been suffering from acute polio-myelitis four weeks. The right leg is almost completely paralyzed and he suffers with considerable pain in the right hip. Only a few muscles of the left leg are affected, mainly the anterior tibial, and peroneus group being paretic. Nearly all the muscles of the right hand, arm and shoulder are more or less completely paralyzed. He suffers with considerable pain in the shoulder and the muscles around the shoulder are sensitive to pressure, but the greatest tenderness is found over the superior fibers of the pectoralis major. In the left arm all the muscles below the elbow are fairly strong, but the muscles of the upper arm and shoulder are nearly completely paralyzed. The shoulder is the seat of slight pain and the muscles surrounding it are somewhat sensitive to pressure. The superior portion of the pectoralis major is acutely sensitive to pressure. The senses of touch, pain, temperature and posture all over the body and limbs are normal.

Pectoralis Major: Right.—The arm is placed in the position above described and he is requested to raise it. On his attempting to do it the shoulder is raised, the inferior or sternal portion of the muscle contracts feebly and depresses the arm, but the superior fibers remain flaccid. In bringing the arm to the side the inferior fibers contract feebly, the superior ones remain at rest. He is unable to draw the arm across the front of the chest, but in attempting to do this the inferior fibers contract as before and the superior portion of the muscles still remains inactive. To

a strong faradic current the sternal portion responds, but the clavicular portion shows no response to the strongest current that he is able to bear.

Left.—The action of the muscle is the same as on the right side in attempting to raise the arm. In bringing the arm down the inferior fibers contract vigorously and force the arm down against considerable resistance. When the arm is held for him in the position for testing the simultaneous action of the sternal and clavicular portions of the muscle he is able to carry it across the front of the chest, the inferior fibers acting vigorously, the superior ones feebly. The clavicular fibers respond feebly to a strong faradic current, whilst the sternal fibers contract about normally to a moderate current.

On the 20th of October, 1891, Dr. M. Baker, the County Physician, very kindly brought a young man to consult me that had been under his care a short time at the dispensary of the county :

CASE IV.—The patient is an expressman and accustomed to handling heavy packages, but he is not aware of having strained or in any way injured his arms or back. He had syphilis two years ago. About five weeks before I saw him he began to suffer with "rheumatic pains" in the left shoulder. He was treated for rheumatism for three or four weeks and no examination of the shoulder was made. After Dr. Baker examined him he suspected neuritis but did not feel confident in his diagnosis. On examination I find the right arm strong and normal in every respect. The legs are unaffected. The left arm hangs by his side and he is powerless to abduct it, although he can move the forearm fairly well, the hand registering, on the dynamometer, 88; the right hand, 128. The biceps, triceps, deltoid, pectoralis major and middle portion of the trapezius, are paralyzed, either partially or completely. The deltoid seems to be the only muscle that is completely paralyzed. There is considerable wasting of the muscles affected. Measurements: Forearm (relaxed)—right, 9½ inches; left, 8¾ inches. The upper arm of the belly of the biceps during contraction: right, 10½; left, 8¾. Over the deltoid, as high up in the axillary space as possible: right, 10¾; left, 8¾. Reflexes of the left forearm normal, but those of the biceps and triceps of the same arm, absent. Tactile sense is normal in every portion of the arm.

There are no sensitive spots in any portion of the arm, although he complains of more or less dull pain in elbow, in arm about four inches above elbow joint and in the shoulder (left). When the muscles are relaxed the arm at the elbow and shoulder can be moved in every direction without causing pain. The nerves of the arm are not sensitive to pressure.

On raising the extended arm to a horizontal position and bringing it to a point about midway between the lateral and front portion of the chest, he is requested to elevate the arm, but he is unable to do it and his attempts cause none of the fibers of the pectoralis major to contract. The lower or sternal fibers of this muscle contract vigorously and depress the arm with considerable force. On carrying the arm to the former position and requesting him to bring it in front of the chest, both superior and inferior fibers of the pectoralis major contract and carry the arm across the front of the chest against considerable resistance offered by my hand.

On comparing the response of the deltoid and great pectoral muscles of the right (healthy) and left (affected) sides, I find that the left deltoid will contract only when the faradic current is very strong; that the inferior portion of the left pectoralis major contracts nearly as readily as the corresponding portion of the right, whilst the clavicular portion of the left requires a little stronger current than the corresponding fibers of the right, but not nearly so strong a current as is necessary to cause contraction in the left deltoid. The paralysis is undoubtedly due to corneal myelitis.

The above cases require but little comment, as they seem to substantiate the observations and conclusions of Dr. Beevor. As yet I am not aware that any case of paralysis, due to disease of the nerves, has been examined in order to determine whether a muscle so paralyzed is paralyzed for all, or only some, of its normal actions. Theoretically, paralysis resulting from diseased nerves should involve all the muscular fibers supplied by the affected nerves.

Pathology and experimental physiology seem to justify the conclusion that the motor cells in a given segment of the cord innervate, through the motor-nerve roots, the muscular fibers of certain muscles that act in association

with other muscular fibers (of different muscles) supplied by nerves coming from the same or adjacent cord segments and that this holds true, although the muscular fibers that perform these associated movements are found in muscles some distance from the others and are apparently supplied by nerves coming from different segments of the cord.

As opportunity offers I shall endeavor to further investigate this subject to ascertain whether a muscle may be paralyzed for one movement and not for another when the paralysis occurs from nerve lesions. From the negative results obtained by studying paralyses of brain origin, it is very probable that such paralyses are never of this character.*

Headache.—There are headaches and headaches ; some due to one cause and some to another. Nearly three years ago I accidentally learned the value of salicylate of sodium in relieving some headaches and in preventing others. I also found that the administration of an acid, especially nitro-muriatic, would in some cases remove "a fit of the blues" or relieve a headache. In a great many cases of headache both agents seemed to increase, rather than relieve the suffering. I had no rule to guide me in administering these drugs for the relief of this class of sufferers and but rarely gave them to relieve headache, although I continued to prescribe an acid for persons suffering with a temporary depression of spirits, until I became acquainted with the investigations and conclusions of Dr. Haig, of London, published in the Spring Number of *Brain*, of the present year. I was familiar with his numerous essays previously published from time to time in various medical periodicals of England, on the relation of the influences of certain drugs

* It will be observed that in some of the cases that I have reported there was simply a paralysis of one portion of the pectoralis major for all movements, both single and associated. It is probable that such a paralysis might occur from nerve injury, but I am not aware that even this has been observed. Only the left pectoralis major of Case III., and both great pectoral muscles of Case IV., of the cases that I have reported, show portions of a muscle paralyzed for one movement and not for another.

and conditions of the body to the excretion of uric acid, but from these I was unable to make sufficiently practical deductions to guide me in the management or cure of certain forms of headache. His valuable paper in the number of *Brain*, to which I have referred, is replete with common-sense suggestions and if his experiments and observations, both on his own person and on those of others, should lead to the relief of certain forms of nerve storms, many a periodic sufferer will have cause for gratitude to him.

His claims may be briefly stated as follows: The tissues of the body are capable of storing up uric acid, which, when getting into the blood in undue quantities, causes irritation of the nerve centers, especially in the brain, and headache, depression of spirits, an attack of hysteria, or, in those subject to epilepsy, a convulsion, results in consequence of the uric acid irritation. In such persons he claims to be able at will, by the administration of certain medicines, to lessen or increase the amount of uric acid excreted in the urine, or cause or relieve a nerve storm due to uric acid irritation.

The agents which he has found to diminish uric acid excretion in the urine are, acids, iron, lead, opium and mercury and those which increase it are, phosphate of sodium, the salicylates, and sodium and potassium under certain conditions.

The treatment for periodic headache or depression of spirits is to give an acid, which he thinks drives the uric acid of the blood into the tissues and thus stops the irritation, followed the next day or two by a few doses of salicylate of sodium, which is a solvent for uric acid and at the same time aids in its excretion by the urine. He thinks the uric acid diathesis cannot be broken up by medicines, but must be counteracted by a diet consisting of vegetable food, milk and small quantities of fish and eggs.

Dr. Haig was a great sufferer from periodic headache until several years ago, when he adopted for himself the

above diet. Since then he has had only an infrequent headache and this has been readily relieved by the administration of an acid.

For the diagnosis of uric acidemia, the name given by Von Jaksch to the condition described by Dr. Haig, I will give the symptoms in his own words.

I must say a few words on diagnosis of the above disturbance of the nervous system as the result of uric acidemia, lest it should be said that I claim all forms of headache, epilepsy and mental depression as due to uric acid, which is very far from being the case.

As regards the uric acid headache, the chief points are that it is periodical; that it comes once in every seven, ten, fourteen or thirty days for years or for life, often beginning in childhood; that it lasts one day or less, rarely two days and that it tends to be worse at those hours at which the uric acid is normally greatest.

I have seen headaches which bore superficial resemblance to it, but differed in lasting practically without intermission for seven to ten days. This, I think, should put the ordinary headache of uric acidemia out of the question and search should be made for organic disease or nephritis, though I am not prepared to say that the headache of nephritis is not in some cases due to chronic uric acidemia, but then the uric acidemia in this case is probably due to an organic and not to a functional cause.

The family history, again, is often very characteristic, many members suffering from headache, often called "billous," with a history of gout, rheumatism and, not very rarely, phthisis.

Last, but not least, there are the slow, high tension pulse and cold extremities, the uric acid reaction in the urine, which I have described, and often very decisive effects of drugs and diet.

In conclusion, I will now give the results of some of my own experimental observations made during the last three months upon persons suffering with headache, depression of spirits and hysteria:

Headache.—I first began by giving an acid, usually two or three drops of the nitro-muriatic to all persons suffering from headache, regardless of the cause of the head pain, simply to determine what class of cases were benefited by it. All headaches due to a foul stomach were usually made worse by it. This was especially the case where the gastric disorder had been brought on by over-indulgence in food or drink, or other indiscretions in diet. In brief, all headaches brought on by some

readily traceable cause, whether they occurred in persons subject to the periodic headaches or not, were never more than temporarily modified by the administration of an acid. In cases where the headache lasted more or less constantly for several days, an acid, for a dose or two, would seem to be attended with considerable benefit, but in a few hours the pain would be as bad as it was before the acid had been first given and then a repetition of the dose was unattended by any apparent relief. In these cases the amount of uric acid excreted by the urine would at times be increased and at others diminished. Save for diagnostic purposes I soon abandoned the use of an acid for the relief of headache, except in persons who were subject to periodic attacks. I found that some of these were promptly eased of pain, whilst others seemed to get but partial relief. At one time the pain might disappear like magic and at another time the same person would experience but little if any benefit from the acid. I soon learned that the sooner an acid was administered after the first symptoms of an approaching headache appeared the more likely was a headache to be aborted and if it was not given until after the stomach had become disordered it was less prompt and certain in its effect on the pain. On testing the urine passed before and after the attack, it was found almost invariably that the uric acid was decreased before the attack and increased subsequently on the administration of sodium salicylate. Between the attacks the uric acid excreted by the urine could be decreased by giving a few doses of an acid and as readily increased by administering a few doses of fifteen grains each of sodium salicylate. When a case presents the history of periodic headaches, occurring every week or every two or three weeks and lasting only a day or so at a time, I feel encouraged to try the acid and sodium salicylate treatment with some prospects of success in giving relief. In cases presenting a mixed history of periodic and non-periodic headaches, I employ the treatment for diagnostic

purposes, after excluding all probable organic causes of headache.

I am in the habit of giving my patients who suffer from periodic headaches an ounce bottle of muriatic or nitro-muriatic acid and a box containing a number of fifteen-grain powders of sodium salicylate, telling them on the appearance of the first symptoms that usually precede a headache to take two or three drops of the acid and repeat the dose in an hour's time if any symptoms are still present. In many instances one dose of the acid is sufficient to abort an attack and in others it has to be repeated two or three times before the patient is relieved. On the evening of the same day, if the stomach is not rebellious, one of the salicylate powders is taken and one or two more on each of the two succeeding days. This last precaution is to get rid of the accumulated uric acid in the system. If it is found that they succeed in aborting a headache, the patient is requested to conform as nearly as possible to the diet which has proved so successful in Dr. Haig's experience on his own person. In addition to this I insist on regular exercise every day possible in the open air and frequent sponge-bathing of the entire surface of the body, usually, when practicable, a warm sponge bath at bed-time and a cool sponge bath in the morning on rising, each followed, by brisk rubbing with a coarse towel.

Depression of Spirits :—There are a number of persons who feel depressed in early morning and get brighter and feel more vigorous as the day wanes. Dr. Haig has endeavored to account for this on the theory that uric acid accumulates in the blood during sleep and acts as an irritant or depressing agent on the nerve-centers in the early morning hours. As yet I have made no observations on this class of persons to determine whether the amount of uric acid excreted by the urine in the early morning hours varies from what is found in health. In a number of instances, however

I have succeeded in removing the depressed feelings by having the patient take an acid on awaking in the morning. In others the feelings have apparently been prevented by taking fifteen or twenty grains of salicylate of sodium on retiring.

Hysterical Attacks :—It is not an uncommon experience to find certain neurotic individuals, especially of the female sex, given to apparently causeless manifestations of hysteria, such as fits of laughing, crying, anger, sighing, irritability, with excessive nervousness. Since experimenting with the acids, and sodium salicylate, on certain nervous states, I have met with two cases of this character. These have been under my care for some time and I have had favorable opportunities for studying their cases and watching the effects of this treatment when compared with previous means resorted to, to control their nervous outbreaks.

One is a lady, æt. 41, married. She has suffered from uterine trouble for four or five years and has become exceedingly emotional and hysterical, although she was quite nervous before the local difficulty developed. The attacks are frequently preceded by several hours of exhilaration, during which she talks rapidly and animatedly, and laughs excessively, even at trifles. This stage is frequently followed by a restless night, during which she is depressed, apprehensive and sleepless. By the early morning she is crying and moaning for hours, but if an attempt is made to quiet her she has periods of sighing. The whole period of the attack, including the stage of excitement, usually lasts from twenty-four to forty-eight hours and is followed by considerable physical prostration. During this time she complains of pain in the back of the head, in the upper cervical and lumbar regions of the spine. If nothing occurs to annoy her (which is rarely the case, as the merest trifles are sufficient for this purpose,) the attacks are light, of short duration and may occur only once every two or three weeks. On the other hand, if she is greatly worried the attacks are quite severe and may follow each other in rapid succession.

I have studied several of her hysterical paroxysms and examined the urine both before and since the anti-uric

acidemia treatment was begun. The quantity of uric acid excreted by the urine has been so variable without any apparent cause that as yet I have been unable to come to any definite conclusion as to the relation of this constituent of the urine to the hysterical outbreaks. I have found that an acid given on the first symptoms of the approach of one of these nervous manifestations will at times prevent an attack; at other times it seems to modify it and yet, again, the medicine may have no appreciable effect. On closer observation, it was found that those nervous outbreaks that seem to come periodically and are ushered in by the slightest cause, yield most readily to the administration of an acid and, on the other hand, those attacks that are brought on and kept up by worry are least influenced by the treatment and will often last several days. It is possible in this patient to increase or lessen at will the quantity of uric acid excreted by the urine by the administration of alkalies or acids.

I have not been able to satisfy myself whether in this case the hysterical attacks give rise to the variations in uric acid excretion or are caused by it. It is a very knotty problem to solve and can be done satisfactorily only after months of patient observation, with repeated careful analyses of the urine.

All the seizures are followed by abundant flow of clear and almost colorless urine of low specific gravity.

The other hysterical subject to whom reference has been made is a lady, æt. about 35. She is married, but has borne no children, is of good physique and always enjoyed good health with the exception of periodic headaches, dating from puberty, and hysterical paroxysms during the last four or five years. She has lived in Colorado ten or twelve years. The first four or five years spent here seem to have favorably modified her headaches, but of late they are as severe as formerly and generally more frequent than before coming to Colorado. The headaches occur about twice a month and the hysterical attacks weekly, usually on Sunday morning; but the latter may be brought on at any time by worry, excitement

or fatigue. Formerly the hysterical seizures were apparently attended with greater excitement and more mental aberration than at present.

She is bright and intelligent and naturally of an even disposition, unselfish and patient. On Sunday morning she usually wakes feeling low-spirited, depressed and irritable. The slightest annoyance will then throw her into a paroxysm of frenzy. If her husband, to whom she is devoted, walks heavily across the floor or pares his fingernails, as happened the first Sunday I was consulted on account of her condition, she flies into a violent rage, accuses him of trying to annoy her, uses abusive language toward him and at times will throw things at his head. She will then cry and sob and usually spends most of the remainder of the day in fault-finding and bemoaning her fate. She generally succeeds in making herself and everyone around her quite miserable. During the latter part of the day a free flow of almost colorless urine takes place and she soon becomes less nervous and excited, goes to bed considerably exhausted, awakes next morning much improved, but remains somewhat nervous for a day or two. On inquiry I find that the outbreaks are not limited to Sunday, but are likely to occur almost any time if she has greatly fatigued herself the day before. Excitement or worry will bring on a paroxysm. I find that the majority of the attacks have probably occurred on Sunday, because she is frequently accustomed to exerting herself to the point of positive fatigue on Saturday.

On analyzing the urine I find the paroxysms are preceded by lessened quantity of uric acid excretion and followed by an increased quantity. The administration of a dose of an acid at the beginning of an attack usually lessens its severity or breaks it up entirely for several hours and one or two more doses carry her over the critical period. At this time, after giving an acid, the urine shows lessened quantity of uric acid, but on giving sodium salicylate it is increased beyond the normal for a

day or two. Her headaches have been treated in the same manner as her hysterical attacks and apparently almost as successfully if the acid has been administered before the headache has existed long.

It has now been some ten or twelve weeks since this lady first consulted me and by careful regulation of diet and exercise and giving an occasional dose of sodium salicylate and an acid on the first evidence of unusual nervous disturbance, she has had but one headache and has experienced great relief from her hysterical paroxysms during this entire period.*

I feel that the whole subject of uric acidemia requires careful investigation. Whether the results of Dr. Haig's experiments and observations are as important as he believes, remains to be proved. Certainly they seem plausible and should receive the attention of physicians. I am engaged in investigating the relation of nerve-storms to the excretion of uric acid and hope to report at length after I have had my cases under observation for several months, or a year or more.

* The attacks have again returned and seem to be less influenced by Haig's anti-uric acidemia treatment.

The Visual Imagery of Alcoholic Delirium.

By C. G. CHADDOCK, M. D., Traverse City, Mich.

THE visual imagery of acute alcoholic delirium is so characteristic and possesses peculiarities that are so constant in all cases, that it is well-nigh pathognomonic. This is true of visual anomalies not only when they occur in the acute delirious states of alcoholic poisoning, but also when they are manifested in states of chronic alienation caused by the same agent.

Does the reason of this uniformity lie in the specific effect of alcohol on nerve centers, in its action on nerve endings, or both? If the uniform result be due to the effect of alcohol on the general nervous system, where is its influence exerted with the determinateness that gives rise to a kind of ideational perversion that is constant? Alcohol affects the entire nervous system, central and peripheral; but the answer to the last question is not at once evident; and a review of alcoholic visual hallucinations, so-called, may afford a somewhat more satisfactory theory of the causation of the uniformity of these psychic anomalies than now prevails.

In mentioning the visual hallucinations of alcoholism as "so-called," it is intended to indicate a belief that these visual anomalies are not primary pure hallucinations; and that they should be more accurately designated as secondary, or illusional hallucinations. The use of the word hallucination, notwithstanding its oft-repeated definition, is indiscriminate; it is applied in too broad a sense, and thus diagnostic discriminations that might be made are lost. It is therefore necessary to briefly review the significance of the terms hallucination and illusion.

Hallucination is the spontaneous re-presentation in consciousness of a memory-picture with an intensity that

normally characterizes presentation. Normally, re-presentation is essentially voluntary and slow; presentation, involuntary and sudden. The intensity of presentation and re-presentation varies widely. Under certain normal conditions the presentative and re-presentative aspects of consciousness are very closely approximated, and subjective distinction of them can be made only by a very energetic exercise of attention and the voluntary use of some of the criteria by which they are ordinarily unconsciously differentiated. These criteria are contrast of intensity, the simultaneous exercise of two or more senses, and voluntary control of the succession of memory-pictures. Voluntary re-presentation of images is the psychical antecedent of hallucination. When voluntary re-presentation has been intensified by repetition and thus volition has come to be but a small causative factor in its production, the domain of hallucinations has been entered, where re-presentations are spontaneous, beyond control of the will, and possess either relative or absolute presentative intensity. Hallucination is primarily central.

Illusion is primarily peripheral and essentially presentative. An illusion is a percept that, either by virtue of physical conditions outside of the organism, or by reason of conditions of the perceiving mechanism, undergoes perversion, more or less complete. This includes the falsification of percepts as a result of abnormal conditions of the peripheral nerves, the sensations thus perverted having their origin there. Thus this anomaly includes percepts arising in consequence of abnormal conditions of the sensory organs in an absence of external stimuli; and beyond physiological limits falsification of percepts may be induced by disease of nerve endings, of afferent paths, of subcortical centers and by general or focal disease of the cortex, or these pathological conditions may be combined in a variety of ways.

There is no diversity of views concerning illusions due to falsification of impressions coming from external objects. It is when subjective sensations, normal or

abnormal, become perverted mentally that there is a lack of uniformity of designation. By many, such anomalies are called hallucinations. In a measure this practice is responsible for the prevalence of the view that peripheral organs are involved secondarily or excentrically, in primary, or pure, hallucinations. These subjective peripheral sensations are presentative and therefore primarily illusional, no matter to what secondary hallucinatory elaboration they may lead.

While the differentiation of hallucinations and illusions in the domain of general sensibility is difficult, there is little doubt that the subjective sensations of the cutaneous surface of insects, etc., on the skin, in alcoholism, are essentially illusional; and the same may be said of the various visceral sensations that so frequently are subject to misinterpretation in the chronic forms of alcoholic alienation. But the visual anomalies of alcoholism are usually called hallucinations without any qualification. It is believed, however, that these visual phenomena belong primarily to the category of illusions, quite as justly as the perversions of cutaneous subjective sensations; and it is possible to demonstrate a reason for this classification of these visual phenomena, that will be as clear as any that can be given for the designation of subjective cutaneous sensations as illusional.

The salient features of the visual phenomena of alcoholic delirium are constantly repeated in different individuals; the same, or generically similiar visions recur again and again, indicating the active influence of a determining primordial psychical association. Snakes, reptiles, insects and, in fact, the whole realm of real and fantastic animals, afford material for the elaboration of alcoholic visual imagery.

It does not seem possible that alcohol is capable of exerting an influence on the physical substratum of memory that could alone condition so determinate a manifestation of imagination; and, therefore, it is necessary to look for the reason of this uniformity in the influence

of physical conditions on nervous tissue made abnormally susceptible by alcohol.

An essential element in this visual imagery of animate objects, is movement; and this must be considered when seeking its cause. If physical conditions peculiar to the eye can be found, which, through the suggestive effect of a sense of objective movements induced by them, could cause a constant reaction in ideation, a satisfactory explanation of the specific imagery can be given.

Under normal conditions there are certain entoptic phenomena which cause objective projection of appropriate images that are never without an accompaniment of motion. The *muscæ volitantes* are seen as small objects, or united in zig-zag, or sinuous figures, always moving. Phosphènes are never stationary. Images of retinal blood-vessels with their moving contents and pulsation, would be perceived as moving objects. After-images are always changing or moving. Here then is entoptic material enough to account for the visual objective projection of objects in motion; and it needs but a retinal condition that suffices to intensify the retinal images of these entoptic objects, and a cortical state of higher impressionability (irritable weakness), that permits them to dominate consciousness, in order to induce a kind of ideation in which the idea of objective movement is paramount. This condition of the nervous system is brought about by alcohol. Whether the forms of the retinal images of entoptic objects are directly suggestive of forms of animal life or not, though it is easy to fancy that in some instances they may be, is of small consequence in the production of the characteristic imagery. The suggestive effect of these retinal images on the mind depends on their movement.

In the mind, objective movement is almost indissolubly connected with ideas of animals—with images gathered from the animal kingdom of experience and story. This is among the first associations formed in the developing mind, and it becomes so inherently fixed that even when

reason and experience have taught us to understand the nature of the forces in obedience to which inanimate objects move, yet involuntarily when an inanimate object is seen to move, the primitive mental association of movement and life asserts its sway, and we endow it with a fanciful life.

The *rationale* of the transformation of perceptions of objective movement into animate imagery is thus at once apparent—it is the result of a direct association of ideas.

The visual imagery of acute delirium due to any other cause, in many particulars, is like that induced by alcohol; and the assumption that similar physical conditions are the causative factors, is suggested. Another fact that favors this view is that, from the nature of the phenomenon, a pure hallucination could hardly occur without a comparatively equable condition of nervous activity in the cortex; mental confusion and rapid succession of memory-pictures could hardly find expression in that objective projection which perfects, or constitutes, an hallucination.

Traumatic Neuroses in Damage Suits.*

By **HOWELL T. PERSHING, M. Sc., M. D.,**

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OF late years, with the increasing use of railroads and of ponderous machinery generally, much attention has been drawn to a peculiar class of injuries of the nervous system, having, as far as present methods can show, no characteristic anatomical changes and yet being, to all appearance, of a very serious nature.

Such cases have been described as "concussion of the spine," "railway spine," "nervous shock" and "railway brain," but at present the name Traumatic Neurosis bids fair to replace all the rest.

The history of such a case usually shows that the patient has been the victim of some appalling accident, such as a fall from a considerable height, being caught and threatened with immediate death in massive machinery, or shaken and bruised in a railway collision or derailment. Immediately after the accident no especial damage may be noticed. Indeed, in some of the most typical cases there has been absolutely no mechanical injury.

The signs of shock, such as loss of consciousness, vomiting, giddiness, headache, tremor and general weakness, form the main features of the case immediately after the accident. The patient may soon be able to assist others apparently less fortunate, and even to return to his work, if an employe. But within a few hours or days pains appear, especially in the back and head, but also in the limbs. Work, if it has been resumed, is abandoned, the weakness and giddiness increase, the gait becomes timid, perhaps reeling and uncertain, or the ability to walk is lost altogether.

* Read before the Denver Medico-Legal Society, November 9, 1891.

The patient, finding himself much more seriously hurt than he had supposed, develops new complaints from day to day and gives utterance to the most melancholy expressions concerning his present and future. If anyone is legally responsible for the accident, a suit for damages is now likely to be brought.

Those writers who are disposed to minimize the importance of such cases have given the impression that the prospect of damages is the main cause of all the trouble, and have asserted in support of their view that such patients do not appear simply seeking relief, and that those whose claims are paid disappear from view or rapidly recover. These statements, though supported by some cases of undoubted simulation or exaggeration, are not in harmony with the facts as now known.

A large number of the most careful and trustworthy neurologists have reported typical cases of the kind outlined, in which no claims for damages were thought of, or in which the symptoms persisted unchanged after claims had been paid.

Most of the controversies concerning this subject have been due to a wrong method and lack of thoroughness in examining the patient and to the imperfections of neurological knowledge, which were much greater ten years ago than they are now. If the patient is examined from a purely surgical stand-point, little or nothing will be found to account for his sufferings and he is likely to be taken for a malingerer; or a too credulous examiner may take all of the patient's statements without any objective tests and do great injustice to the defendant by testifying that the injury is much greater than it really is.

The examination must be rigorously complete from the neurological stand-point, including an investigation of muscular action and nutrition, the tendon reflexes, the different forms of general sensibility, the special senses, the skin reflexes, trophic and vasomotor symptoms, circulation, respiration, digestion, the bowels, bladder and sexual functions, speech, sleep and mental condition.

In making such an examination it is of the utmost importance to note every objective symptom and to bring the various complaints to an objective test wherever possible.

Muscular power should be tested by the ordinary hand-grasp and, also, by having the patient flex and extend each joint while the physician resists the movement and by the physician attempting these motions while the patient resists. General weakness is well-nigh invariable. Effort soon brings on a distressing sense of exhaustion which is marked by hurried respiration and heart action and often by tremor, which may involve the whole body.

There may also be localized weakness, especially on the side injured, amounting to paresis or complete paralysis and accompanied by loss of sensation of the same extent as the paralysis.

Paralysis of a single limb is readily distinguished from that due to coarse organic disease, by the fact that a focal lesion in the brain or spinal cord, however situated, could not cause both the paralysis and anæsthesia, while the electrical irritability of the muscles and the retention of the tendon reflexes show that the nerve trunks are not damaged. Both the arm and leg on one side may be paralyzed, in which case both paralysis and anæsthesia might be supposed to be due to a single focal lesion on the opposite side of the brain, in the internal capsule. But such a lesion would cause hemianopsia, which is not found in these cases, and would also involve the face and tongue, which escape. Moreover, in organic hemiplegia the paralyzed leg is swung around in walking, the toe obstinately clinging to the ground, while in functional hemiplegia the paralyzed leg is dragged after the other with the whole sole, or even the heel, next the ground. If a crutch is used the leg is held hanging motionless from the body. Paralysis in both legs, without involving the arms, is rare. The use of a limb, supposed to be paralyzed, when it is unexpectedly needed to prevent falling, proves the hysterical nature of the paralysis, but it does not necessarily

prove conscious deception. Etherization should be resorted to if malingering seems probable.

Whether paralysis exists or not, the gait is apt to be rendered peculiar by an effort to limit the motion of some joints, especially of the back and hips, in order to avoid pain. The legs are spread apart and stiff, while the body is apt to be bent forward and one hand to be held to the side or small of the back.

Local spasm is common. It may usually be elicited in the spinal muscles by tapping or pressing on them, or by an attempt on the part of patient or examiner to quickly bend the trunk forward. This gives pain and the spasm of the muscles restraining the attempted movement can at the same time be plainly seen.* The motions of the hip or of any other painful joint may be restrained in the same way. Testing the knee-jerk sometimes throws the quadriceps muscle into clonic spasm. Muscles that are paralyzed may remain in clonic spasm so long as to be permanently shortened, producing characteristic deformities. Such a contracture may develop rapidly, while a similar one due to organic disease invariably comes on very slowly, is always easier to overcome and causes less deformity.

The electrical reactions are always nearly or quite normal. There may be a moderate loss of irritability to the faradic current but there is never a reaction of degeneration.

Moderate wasting of the muscles, greater in extent and coming on earlier than the atrophy of disuse, may occur, but their nutrition is usually well preserved.

While no true ataxia can be demonstrated in traumatic neurosis, swaying and a tendency to fall when attempting to stand with the eyes closed, is quite common, and a reeling, apparently ataxic gait, is often observed. In one of my cases the patient was unable to walk, although strong enough to have done so. This apparent ataxia may be due either to real giddiness or simply to fear and anxiety.

* H. C. Wood, *International Clinics*, April, 1891.

Tremor is a very common symptom. It is usually general rather than limited to a special part and may involve the tongue, face and head. Its rate is rapid—6 to 8 per second. It is increased by effort or emotional disturbance and deserves special attention as an objective sign of disease.

Pain is a prominent and persistent feature. It is, of course, likely to be felt at the seat of direct violence, but irrespective of this it has a special predilection for the spine and head.

Spinal pain deserves the most careful investigation. It is variously described as dull, heavy or boring and, while liable to exacerbations, is, as a rule, constantly present in some degree. The examiner should elicit it by light and also firm pressure on the vertebræ and muscles, by bending, twisting and jarring the spinal column and, also, by downward pressure on the head while the patient is standing or sitting.*

In this way certain associated objective symptoms, which it is difficult or impossible to simulate, may be brought under observation, such as altered facial expression, dilated pupils, pallor, sweating, weak, rapid heart action and local spasm, as well as the ordinary cries of suffering and defensive movements. Closely allied to spontaneous pain is hyperæsthesia, or excessive sensibility to slight painful stimuli, which manifests itself in tender spots, especially along the spine and also in excessive annoyance at bright lights or loud sounds.

Then there are many forms of perverted sensation, such as numbness, itching, a feeling of heaviness or coldness, disagreeable subjective odors and tastes, roaring in the ears and flashes of light or dark spots before the eyes. These sometimes give rise to queer conceptions which may amount to hallucinations.

I know of no way to bring them to an objective test; they must be judged by their relation to the general picture of the disease, the degree of probability that the

* Dercum, "The Back In Railway Spine," *Am. Jour. Med. Sci.*, Sept., 1891.

patient could invent them and by the general opinion we form as to his trustworthiness.

Loss of sensibility is of more importance than its exaggeration or perversion. In testing it the patient's eyes must be closed and the stimuli applied when not expected; the countenance being closely watched so as to prevent a simulator from bracing himself to show no signs of pain acutely felt and, also, to prevent a patient who does not feel the pain of a needle-thrust from appearing to do so when he is really only startled at the prospect. Any suggestion of what the examiner expects to find must be scrupulously avoided. All forms of general sensibility may be lost or diminished together, but it is more common for some to be lost and others to be retained—thus, touch may be nearly perfect while the pain sense is so impaired that the patient remains indifferent to the thrust of a needle through a fold of the skin or even under the nails. Sensibility to touch, pain, temperature, muscular effort and posture should each be investigated with care and patience, remembering that slight discrepancies occur where there is no desire to deceive and that what appears to be a startling discrepancy to one not familiar with such examinations may be nothing unusual. Indeed, the very nature of the apparent discrepancies may prove the patient trustworthy. Two of my patients responded promptly to the slightest touch and readily appreciated changes of temperature and posture, yet were indifferent to pain. Had they been simulating, I am sure that they would either have denied feeling any stimulus or recognized the tests for pain and denied feeling the others.

The anæsthesia may be limited to one side of the body, as in hysteria, but it is more commonly bilateral. Sometimes it involves only the scalp and forehead, or the head, neck, shoulders and upper part of the chest. When it involves part of a limb, the limiting lines pass around the joints or encircle the limb between the joints, never corresponding to the distribution of any particular nerve.

The anæsthesia, to be genuine, must be constant at the time of examination, but its limits may vary from one examination to another. Much care and considerable time are needed for its thorough investigation, even when there is no motive for deception.

Examination of the eyes aids greatly in forming a correct diagnosis. It may happen that inequality or immobility of the pupils, or atrophy of the optic nerve shows the presence of organic disease, thus taking the case out of the strict category of the neuroses.

It is a common complaint that the letters all seem to run together in confusion on attempting to read. The test types will very likely show the acuity of central vision to be considerably below normal, especially on the side that has been injured or that is paralyzed or anæsthetic. If the fields of vision are mapped out the limiting lines for white and colors will in many cases be found concentrically contracted, having the same order as in health but all being nearer the fixation point.

Homonymous hemianopsia, or blindness of the same half of the field in each eye, does not occur, although the worse eye may be blind and the other hemianopic.*

It is not possible to simulate a typical contraction of the visual field without previous practice in addition to an understanding of the subject. Most patients have not the remotest idea of what the visual field is, still less of how large it should be, or how the white and color fields are related. Oppenheim† told some of his patients to answer so as to make their vision appear bad and got as a result fields with zigzag outlines, the color fields having the most impossible relations, green even extending beyond white in some places. The examiner must take one precaution, however—he must be careful not to suggest to the patient whether the test object should or should not be seen. I have twice marked blind spots in the fields of hysterical patients, due, as I now believe, to

* H. C. Wood, *International Clinics*, April, 1891.

† "Weitere Mittheilungen ueber die traumatischen Neurosen." Berlin, 1891.

the fact that in instructing them how to answer I led them to expect that the test paper would grow dim or disappear at some point. Neurotic patients, without intending to deceive, are so receptive of suggestions that we cannot be too careful.

Deafness is often present, especially on the side that is otherwise anæsthetic. If the defect is due to the accident, a tuning-fork placed on the top of the head or against the teeth, will be heard better in the better ear (just the reverse of what takes place in deafness due to catarrh or to wax in the meatus) and bone conduction will be found to be impaired on the deaf side corresponding to the degree of deafness. I compare the patient's bone conduction with my own by pressing the handle of the vibrating fork on the skull behind the ear until it is no longer heard and then immediately apply it to the same spot on my own head. If I hear it I can tell by the time the sound lasts the extent of the impairment of the nervous part of the patient's auditory apparatus.

Taste and smell are often dulled, sometimes abolished. The absence of any facial reaction to a nauseating odor or an intensely bitter taste, like that of quinine, is presumptive evidence of a genuine loss, though the patient may not be altogether trustworthy. The skin reflexes show no constant change. The involuntary drawing up of the foot when its sole is tickled or otherwise irritated, is often lacking and if the test is made when not anticipated, this has objective value. The cremasteric, abdominal and epigastric reflexes are more commonly absent or diminished than increased.

Hurried nervous action of the heart is usually noted, even when the patient is in repose. The effect of change of posture, effort, pain and unexpected noises should also be noted. Quick, shallow and anxious respiration may accompany the acceleration of pulse.

The temperature often ranges below normal, but febrile attacks may also occur.

Most cases of traumatic neurosis present the familiar

picture of nervous dyspepsia, and the impairment of digestion and assimilation may cause decided loss of weight. The bowels are usually constipated but not otherwise affected. The bladder is usually not involved. Sometimes there is difficulty in expelling the urine. Low specific gravity of the urine may be an objective indication of the general nervousness.

Male adults almost invariably complain of loss of virility.

Trophic symptoms are rarely a prominent feature of the case. Muscular wasting has already been mentioned. Vasomotor derangements are more common. Flushing of the face and excessive sweating, due to arterial congestion, are not rare. Coldness with blueness or lividity of an extremity, especially if it is anæsthetic or paralyzed, has been frequently observed. Sometimes slight irritation of the skin causes redness or wheals that persist for a considerable time.*

Speech may not be at all affected, but in a considerable proportion of cases, it is peculiarly embarrassed in such a way that certain words or syllables are uttered slowly and with effort, while others come forth hurriedly and are perhaps jumbled together. True aphasia does not occur, but a reluctance or refusal to speak, like that of hysteria or melancholia, may be observed.†

Sleep is almost, without exception, restless and disturbed by bad dreams, which are especially connected with the accident.

The mental changes in traumatic neurosis are of great importance. Even the mildest cases show an irritability of temper which is a serious misfortune. In addition to this, the patient is depressed and melancholy, despairing of ever being himself again. An occasional complaint is that some „disaster seems to be impending, or that it seems to the patient as though he had committed a crime and were to be punished for it.

* Kriege, "Ueber vasomotorischen Störungen der Haut bei der traumatischen Neurose." "Arch. f. Psychiatrie." XXII. Band, 2 Heft.

† Oppenheim, "Die traumatischen Neurosen." Berlin, 1889.

Such patients are extraordinarily sensitive to slight annoyances, and are easily moved to tears on seeing an animal maltreated, on hearing a pathetic tale, or on telling of their own misfortune. They prefer to be alone, brooding with anxious solicitude over their condition, thus, no doubt, intensifying existing ills and often creating new ones. This condition may culminate, from time to time, under varying provocation, in attacks of morbid fear, characterized by oppression in the region of the heart and a sense of dread, amounting to anguish, the accompanying tremor, dyspnoea and acceleration of the pulse, giving objective proof of a highly abnormal condition. These severer forms of mental suffering may lead to suicidal impulses and in a few cases suicide has actually been committed.

The intellect is far less apt to be impaired than the emotions and the will. It is rather mental energy and the capacity for sustained intellectual effort that are lost, while the ability to exercise normal intellectual power for a brief period remains. Occasionally, morbid sensations and suspicions may develop the delusions of a true monomania. In exceptional cases primary dementia seems to be due to the shock of an accident.

Epilepsy without demonstrable brain lesion has repeatedly been observed as an addition to the other symptoms. Whatever may be the form of epileptic attack, the usual tendency to mental deterioration exists.*

It is evident that a thorough examination with reference to all the points mentioned, extended in certain directions, if necessary, can leave little or no doubt as to whether the claimant is or is not sick. Most of the objective symptoms would not be thought of by an average person if not felt, and a typical combination of objective symptoms could not be feigned by the most skillful malingerer so as to deceive a careful and competent examiner.

* For an admirable account of symptoms in detail, with illustrative cases, see Oppenheim, "*Die traumatischen Neurosen*."

Simulation having been excluded, what is the nature of the malady?

In some cases immobility of the pupils or atrophy of the optic nerve or degeneration of some part of the spinal cord gives conclusive proof of the presence of organic disease. It may perhaps be said that, as we are considering a neurosis, such cases ought to be excluded, but as they correspond in their main features with others in which no nerve degeneration is demonstrable, they evidently have a bearing on the question. Now it is evident that small lesions might be scattered at random through the brain and only occasionally be so situated as to unmistakably betray their presence, either during life or after death. This makes it seem probable that many cases, especially the severe ones, would show anatomical changes if a sufficiently thorough *post-mortem* examination could be made.

Vibert* found numerous small hemorrhages in the bodies of several persons killed in a railway accident near Paris. Willigk,† Sperling and Kronthal,‡ and Friedmann,§ have found dilatation and degeneration of the smallest vessels, with surrounding infiltration after concussion of the brain. Mendel, Bernhardt, Fürstner and Edes have furnished experimental and clinical evidence pointing in the same direction.|| Moreover, some cases which at first appear to be traumatic neurosis afterwards pass into a well-recognized form of nervous degeneration, such as parietic dementia, multiple sclerosis, tabes or lateral sclerosis.

Much stress has been laid upon the mental factors in causation, with the apparent implication that organic disease is thus excluded.

Hodges¶ mentions the following very interesting case:

* "Etude médico-legale sur les blessures produites par les accidents de chemin de fer." Paris, 1888. Quoted by Knapp, *Jour. Ment. and Nerv. Dis.*, October, 1888.

† Quoted by Knapp, *Jour. Ment. and Nerv. Dis.*, Oct., 1888.

‡ "Eine traumatische Neurose mit Sectionsbefund," *Neurolog. Centralblatt*, 1880, Nos. 11 and 12.

§ "Arch. f. Psychiatrie," XXIII., 1.

¶ "Knapp," l. c.

¶ "So-called Concussion of the Spinal Cord," *Boston Med. and Surg. Journal*, April 21 and 28, 1891.

A railroad train plunged into the chasm of an open drawbridge, forty-six persons losing their lives and some thirty others being more or less severely injured. One car broke in two near the middle, leaving its rear portion on the edge of the abyss, while the front went down. The occupant of the seat where the break occurred was suddenly confronted with the horrors of the scene and the sight of his struggling and drowning fellow-passengers. He received no bodily injury, but a long contest with nervous symptoms ensued, similar to those attributed to concussion of the spinal cord. He was obliged to give up active business and to the day of his death, many years afterward, was unable to sit except upon an air cushion, or to bear the jar of riding in any vehicle on wheels.

Now in this case the fact that the cause was mental by no means excludes organic disease. The storm of nervous discharges in the conscious centers of this man's brain must have been terrific and there is every reason to believe that it did permanent physical damage, perhaps in some such way as too strong an electric discharge ruins a delicate galvanometer.

In default of more precise pathological evidence we may study traumatic neurosis by comparing it with other diseases, especially its nearest relatives, hysteria and neurasthenia.

Hysteria is a constitutional defect of the nervous system, either inherited or acquired in early life through lack of proper mental and moral training. It is about twenty times as frequent in females as in males and is especially characterized by a lack of proper control of the emotions, along with a disposition to yield to any suggestion of ill health and to devote much attention and draw the attention of others to any symptom. In its graver forms it renders itself objective by what are called hysterical stigmata, the chief of which are loss of sensation on one side of the body and various forms of spasm and paralysis. The hemianæsthesia includes impairment of the special senses, that of sight being contraction of the visual field and usually loss of acuity of central vision. The permanent condition, as shown by the mental state and the stigmata, is usually varied from time to time by distinct hysterical attacks, which range all the way from spells of senseless laughing or crying up to severe con-

vulsions resembling those of epilepsy, but more prolonged and elaborate. The hysterical woman dearly loves to talk of her suffering and to attract as much attention to it as possible, whereby she makes her immediate relatives suffer greatly through concern for her, but she herself is not really melancholy and leads a very tolerable sort of existence.

Neurasthenia is an exhausted state of the nervous system in which hereditary influences are less prominent than in hysteria. It is far more frequent in males than in females and is caused principally by overwork, especially worrying brain-work, aided very often by excessive indulgence in tobacco, alcohol or venery. Self-control, so sadly needed in hysteria, often aggravates neurasthenia by enabling a man to keep himself at work in spite of the natural call for rest and recreation. The main features of neurasthenia are mental depression, excessive irritability under all kinds of annoyances, a painful sense of weakness and incapacity for close application, tremor, giddiness and various queer, disagreeable feelings in the head, painful and tender spots along the spine, numbness, coldness or other forms of perverted sensation, nervous dyspepsia, impairment of virility and disturbed sleep. Anæsthesia, paralysis and spasm are either absent or extremely rare.

Traumatic neurosis differs from hysteria and neurasthenia in having an instantaneous cause instead of one acting slowly through months, or, more commonly, years. The developed disease has a strong resemblance in its general features, mental depression, weakness, tremor, etc., to neurasthenia; in its local ones, anæsthesia, paralysis, spasm, etc., to hysteria.

Some writers have maintained that in all cases of traumatic neurosis we have to deal with hysteria and with nothing more. The strongest evidence for this view comes from Charcot,* who has described many cases in which paralysis, anæsthesia and hysterical convulsions were the main features following injury, and

* "Leçons sur les Maladies du Système Nerveux," tome III.

has produced similar symptoms in hysterical hospital habitués by suggestion during hypnosis.

From this he argues that the symptoms in the traumatic cases were also suggested by the circumstances attending the injury.

Thus, if the right arm has received a blow, the numbness, weakness and tingling immediately following may suggest the idea of anæsthesia and paralysis, and this idea once established the limb remains useless an indefinite time after all local effects have subsided. In the same way the temporary dimness of vision following a nervous shock may suggest blindness as effectively as the voice of the hypnotizer. Charcot calls this process auto-suggestion and I think his argument is convincing for his own cases, in most of which hysterical predisposition was a prominent factor.

It seems entirely reasonable to suppose that suggestion, acting on a predisposed person, causes all of the hysterical stigmata and all of the phenomena of hypnotism, including even the symptoms of which the patient has no knowledge, such as contraction of the visual fields or altered secretion of the kidneys.

But the predisposition is a very essential part of the explanation. Suggest to a normal individual that he is paralyzed, and he will laugh at you. If he finds his arm weak and numb from a blow, or from being in a constrained position, he rubs it and, finding sensation and power returning, pays no more attention to it. The hypnotizer must often try many times before he succeeds in putting his subject in a condition to receive suggestions, and he may fail altogether. Consequently, if a strong previously healthy man receives a mental or physical shock and then through mere suggestion develops hysterical paralysis, the shock must have done for him what bad hereditary influences or years of bad training do for the ordinary hysterical patient. To say that the symptoms have a mental cause is simply saying that the injury has affected the brain rather than the leg or arm.

But on the other hand, there are many women so strongly predisposed to hysteria that a most trivial occurrence may cause an explosion of the disease. In such a case a railroad company might be most unjustly made to assume responsibility for bad inheritance, bad training and previous misfortunes. The remedy is to inquire carefully into the history of the claimant and to put in evidence anything showing the predisposition. The judge should warn the jury not to hold the defendant responsible for disease existing before the accident in question.

But in any case it must be remembered that hysteria does not exclude other diseases. It may exist along with the gravest organic diseases or with other functional disorders. Still less does the presence of a symptom ordinarily hysterical, such as hemianæsthesia, complete the diagnosis. Thomsen and Oppenheim have shown that hemianæsthesia may be found in chorea, epilepsy, neurasthenia, multiple sclerosis and some forms of insanity.

It seems to me that one cannot but conclude that most cases of traumatic neurosis are something more than hysteria and that some would in ordinary practice be regarded as cases of neurasthenia with no hysterical features at all. Even if all other symptoms could be regarded as hysterical, and it seems to me that they can not, the mental depression would alone be a most important addition, both from the scientific and the medico-legal point of view. It is wonderful how tolerable the gravest diseases may be to a patient who retains a cheerful disposition, while persistent melancholy poisons existence irrespective of everything else.

Friedmann* in a carefully-reasoned paper, with illustrative cases, read at the meeting of the Southwestern German Neurologists, at Baden-Baden, June, 1891, argues that the principal symptoms of traumatic neurosis may be divided into three groups: 1, irritable weakness,

* "Ueber eine besondere schwere Form von Folgezuständen nach Gehirnerschütterung," "Arch. f. Psych." XXIII., 1.

headache, dizziness, mental depression, etc.; 2, hysterical symptoms; 3, simple psychoses.

The first group (neurasthenia) he refers to derangement of the circulation and calls the vasomotor symptom-complex.

The hysterical and mental disorders he does not attempt to explain. Each of these symptom-groups may exist independent of, or be variously intermingled with the others; so we are not to think of one disease, traumatic neurosis, but rather of several, the traumatic neuroses. This view seems to me to accord with the facts as far as we now know them. The possibility of alcohol or some other poison being a factor in causing symptoms, especially the neurasthenic ones, must be remembered.

The most difficult question for the medical expert to answer is, What will be the ultimate result? Here it is well to err on the side of caution and let it be distinctly understood that the future is doubtful. The old idea that the payment of damages would certainly cure the disease must be given up.

Naturally, the success of the suit, terminating various annoyances incident to it and the reception of a large sum of money, puts the patient under more favorable circumstances and no doubt often accelerates improvement, but thoroughly trustworthy and experienced men such as Strümpell and Oppenheim agree that in the severe cases complete recovery is the exception rather than the rule, and that many patients remain in substantially the same condition years after litigation has ended. Cases occur, however, of every degree of severity and, of course, the lighter ones are much more likely to end favorably, so each must be carefully considered by itself. In Germany an attempt is made to indicate the earning capacity that remains by a fraction. This serves a useful purpose, but it should be distinctly understood that such a fraction is given as nothing more than a rough approximation to the actual fact.

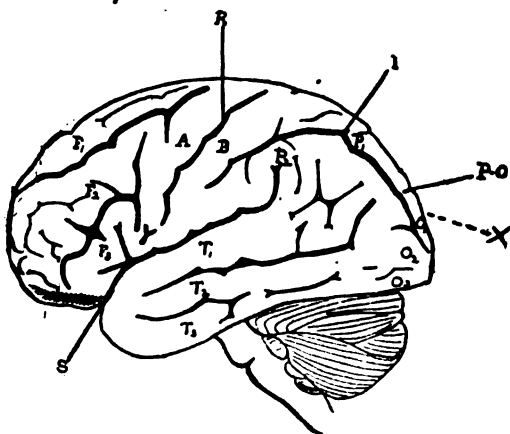
The Present Aspect of Cerebral Surgery.

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SUCH brilliant, alluring hopes have been floating in the air for the last few years in regard to cerebral surgery and such a lack of precision has characterized most of the articles and the debates regarding the subject that I have thought no more opportune topic could be selected for a meeting of gentlemen interested in general medicine and general surgery, the more especially as the question deals with two great divisions of modern medicine—surgery and neurology—so that a thoroughly successful cerebral operation is usually only done through the co-operation of a competent neurologist and a competent surgeon. It is probable, too, that the necessity for neurologico-surgical knowledge is the real reason for the seeming diversity of opinion that prevails, accordingly as the topic is viewed from the surgical or the neurological stand-point. Surgery has made tremendous strides in the last two decades, and it is quite possible that if we could resurrect a surgeon fully equipped up to the year 1870, he could learn his art in many essentials anew, and sit like another Gamaliel at the feet of some Saul who had been his pupil—whilst neurology, in its turn, has made an equally revolutionary advance. There is no man I know of in the civilized world who is at once a master of surgery and neurology. It is idle to discuss whether there can be such a man. Suffice it to say that the necessities of medical practice have nowhere called for such a one, even in the great capitals of this country and Europe. I shall, of course, view the subject mainly from the point of view of the neurologist and leave the matter of surgical technique to someone much more competent than I am.

At the very outset we should have a clear idea of our present knowledge of localization of functions in the brain. We know quite accurately the functions of the so-called motor area, consisting of the ascending parietal and ascending frontal convolutions and their in-turned surfaces upon the great longitudinal fissure, forming the so-called paracentral lobule. We know that the upper third of these two convolutions, together with the paracentral lobule, constitute the center for the leg upon the opposite side, whilst the middle third of these same convolutions constitutes the center for the muscles of the arm upon the opposite side, and the lower third constitutes the center for the muscles of the head and neck; and the third frontal convolution, together with the island of Reil, is the center for certain motor and sensory functions of speech, so that a man having a lesion of this region will have ataxic and amnesic aphasia, one alone or both. We know certainly that this motor area contains the motor centers. Whether it also contains the sensory centers for the same parts of which it holds the motor centers, is a question that is still under discussion. Many authorities, notably Charcot, maintain that these are motor centers, and that the sensory implications, if present at all, are transitory and slight. On the other hand, the physiologists more especially insist that there is a distinct impairment of sensation when these motor centers are affected. Ferrier and his followers even go so far as to state that the general sensations of touch, pain, temperature and muscular sense have their centers at the base of the brain and in the gyrus fornicatus. We are, therefore, somewhat at sea at the present day as to what the relationship of these motor centers is to sensation, although there can be no doubt whatever that in certain cases lesion of them surely causes sensory as well as motor symptoms; and this was notably exemplified in a case which I reported last winter of a paralysis of motion and muscular sense of the arm and leg on one side, caused by a small cysto-sarcoma just beneath the gray



EXPLANATION OF PLATE.

Fissures and Convolutions of the Left Hemisphere: S, fissure of Sylvius; R, fissure of Rolando; P-O, parieto-occipital fissure; F₁, F₂, F₃, frontal convolutions; A, B, ant. and post. central convolutions which join together at the vertex in the para-central lobule; I, interparietal fissure; P₁, P₂, superior and inferior parietal convolutions; O₁, O₂, O₃, occipital convolutions; T₁, T₂, T₃, temporo-sphenoidal convolutions; X, region of Cuneus; Y, Operculum.

matter at the junction of the arm and leg centers. We know, furthermore, that disease of the first and second temporal convolutions gives rise to what is known as word deafness, *i. e.*, the patient hears words that are spoken to him perfectly well, but fails to grasp their meaning, although he can comprehend them perfectly if he sees them written. In other words, the cortical center of the auditory nerve being destroyed by the lesion of the first and second temporal convolutions, he fails to understand what he hears perfectly well, but the cortical center of the optic nerve remaining intact, he not only sees, but understands what he sees. We know that a lesion of the cuneus and the adjacent temporal convolutions gives rise to that symptom which is known as hemiopia or hemianopsia; the hemiopia being of both halves of the retina of the opposite side to the cuneus affected. We know that the symptoms of lesion of the frontal lobe are purely mental as long as they do not encroach upon the motor area. We know the symptoms of lesion of the base of the brain with its mesh of cranial nerves and nerve strands coming down through the crura cerebri and passing through the pons into the spinal cord, and we have known these symptoms appertaining to the base of the brain for a great many years. We also know fairly well the symptoms that denote a lesion of the cerebellum and its peduncles. I have marked out for you upon this chart the known regions of the brain which constitute, as you perceive the motor area, the two upper convolutions of the temporal lobe, the island of Reil and the third frontal convolution, the frontal lobe, the cuneus, the base of the brain, and the cerebellum with its peduncles. Let us now see what we do not know:

We do not know where the centers are in the cortex for touch, pain, temperature and muscular sense. We do not know the functions of most of the parietal lobe in the rear of the ascending parietal convolution. We do not know the functions of the upper part of the occipital lobe, the lower part of the temporal, or of any part of

the tempero-sphenoidal except that appertaining to smell, nor do we know the functions of any of the convolutions bordering on the great longitudinal fissure except what I have pointed out as the paracentral lobule. Passing into the substance of the hemispheres it can be said that we have a very excellent knowledge of the symptoms caused by lesions at the region of the basal ganglia, for here we have the motor strands coming up from below and passing into the fan-like radiations of the corona radiata but going on the way through what is known as the internal capsule, which runs, as you will perceive, between masses of gray matter, upon which we should dwell for a brief moment. To the inner side is the optic thalamus; in front of it is the head and behind it is the tail of the over-arching body (the arch of which is cut away in this section), known as the caudate, or tail-shaped nucleus. To the outside is this bean shaped mass of gray matter which is known as the lenticular or bean-shaped nucleus. As you will perceive, the mass of white fibers coming up from below in the internal capsule have a triangular shape and the anterior portion contain the motor fibers and the posterior portion contain the sensory fibers. We have, therefore, an excellent knowledge of the symptoms caused by lesions in this and adjacent portions of the brain, as I could well show you if I had time to go into details. Nor are we without means of diagnosis of lesions lying between these basal ganglia and the cortex, so-called subcortical lesions.

From this recapitulation it would seem as if it were a very easy matter to lay our finger upon the exact site of any lesion of the brain and go down to its relief with the surgeon's knife. Practically however, there are difficulties which a little consideration of the subject will make plain, which should not discourage us, but which should temper our enthusiasm. In the first place, it is not always the case that a lesion is to be found on the opposite side to the paralysis, for it not infrequently has happened that it is upon the same side.

Brown-Séquard called attention to this many years ago and adduced it as a proof of the worthlessness of our growing doctrine of cerebral localization, but at the same time, curiously enough, Flechsig, of Leipsic, was showing that in a certain proportion of individuals the motor fibers, instead of passing over to the opposite side of the cord, passed down upon the same side. I have in two instances assisted in surgical operation where the lesion was found upon the same side as the paralysis, and I have three cords in my possession in which there is no evidence of decussation. I know of no means of guarding against this risk. In the second place, we must consider the distinction that should always be made between the general symptoms of brain disease and the localizing ones. Cerebral tumors, for instance, will have such general symptoms as cephalalgia, vomiting, neuro-retinitis, mental dullness and convulsions, but not one of these general symptoms is of the least value as to the site of the tumor. When the localizing symptom is superadded, as a paralysis of an arm, of a leg, of speech, of hemianopsia or of word-deafness, the further question immediately arises: Is this lesion in the cortical center? Is it in the base of the brain? Is it in the region of the internal capsule, or is it between the basal ganglia and the cortex in the subcortical region of the centrum ovale? As I have said, we can generally settle the question as to whether it is at the base of the brain or whether it is in the region of the internal capsule, but it is not always so easy to decide as to whether it is in the centrum ovale or in the cortex. Of late years there has been a growing tendency to believe that subcortical tumors of the centrum ovale are not attended by convulsions with loss of consciousness, whilst lesions of the cortex have convulsions with marked loss of consciousness. I have had eight cases of my own which would entirely confirm this belief. If it prove to be true, we have in this fact a valuable means of diagnosis between a cortical lesion and one of the centrum ovale. But it must be borne in mind that although this

symptom is probably reliable, we cannot yet say that it is certainly so. If the lesion be in the cortex in an area whose function we know, it will usually be no difficult matter to find it, but the agony begins if the lesion is in the centrum ovale beneath the cortex, for our only means of detecting it is by probing, palpation and cautious incision with the knife and these are often totally inadequate means of finding a tumor whose consistence is no greater than that of the surrounding nervous tissue, or a tumor which is small and deep-seated. I spoke to you a few minutes ago of a patient of mine who died from a cysto-sarcoma in the motor area, causing paralysis of motion and the muscular sense. This tumor was not found at the operation, although I ran a needle through it three times, as the autopsy showed; neither by palpation or probing, or such limited cutting with the scalpel as we dared do, could we detect its existence, and even at the autopsy, only after I had laid the brain upon a plate and made sections an inch thick from the vertex to the base did I find it, and it was only then discovered by individual and careful dissection of these brain sections. The reason for all this was that it was a round cell sarcoma with a cystic degeneration in the center, which had made it softer than the surrounding brain tissue and it was no larger than a small hazelnut. In another case a distinguished neurological friend of mine made a diagnosis of a cerebral tumor for which an operation was unsuccessfully done, as the growth could not be found and it was not found even at the autopsy. The brain was finally sent to my neurological friend, who hardened it for three months in bichromate of potash, and then, making thin sections, found a tumor the size of a bean deeply imbedded in the centrum ovale. I know of a similar case in the experience of a well-known surgeon and I could go on multiplying instances of the same kind.

Passing from these more general considerations, it will be well to discuss in detail the different lesions for which operations are done upon the intracranial contents at the

present day, although of course I shall not waste your time in arguing about the moonstruck claims of those who would trephine for general paralysis of the insane, ordinary mania and simple melancholia, as I feel assured that you will put them on a par with those irreclaimable *doctrinaires* who would do a circumcision or cut the deep urethra for a pneumonia. Operations upon the intracranial contents are advocated, as you know, at the present day, for

Fracture, Hemorrhage, Abscess, Hydrocephalus, Cephalalgia, Tumors, Epilepsy, Idiocy.

Of fracture, of course, I need say very little, for every tyro in surgery knows that a fracture with symptoms of compression or irritation needs prompt surgical relief, but I do not think that the surgical text-books lay quite enough stress upon the fact that serious fractures may not sometimes be detected by palpation through the scalp, even those of the vertex. Meningeal hemorrhage associated with fracture should always be operated upon as soon as the general and localizing diagnosis is made, for the danger that may lie in a surgical operation with antiseptic precautions is immeasurably less than the dangers that lie concealed in the meningitis and meningo-encephalitis which is almost sure to result. I have known of several lives that have been lost by a failure to operate promptly under such circumstances. Of late years there has been a growing tendency to operate in cases of hemorrhage into the region of the basal ganglia, sometimes traumatic but more often idiopathic; but here I cannot see any advantage from operating, because the hemorrhage is deep in the region of the ventricles; and although it is usually not difficult to localize, the hemorrhage is usually so small as to make it a serious question whether the cerebral operation to reach to a great depth is not more likely to do damage to the nerve strands than the outpouring of the blood itself. I must admit however that the question is still an open one, so that we should be justified in operating where the symptoms to life are grave and imminent.

The results have been extremely favorable in operations upon abscess of the brain, and I have no hesitation whatever in affirming positively that an abscess of the brain should always be operated upon. It is not necessary to offer statistics upon this point, for anyone who is acquainted with the literature of the subject cannot possibly reach any other conclusion than that which I have stated.

The operations upon hydrocephalus have been almost uniformly useless, for the serous outflow constituting the hydrocephalus, whether caused by tubercular meningitis or not, is not in any way affected by the operation, which after all, simply makes drainage.

I was somewhat surprised to see that a recent paper before the Congress a fortnight ago in Washington, spoke of cerebral operations for cephalalgia; and as cephalalgia is a mere symptom indicative of very many different lesions, it seems to me that it is about as vague to speak of trephining for cephalalgia as it would be to speak of trephining for fever or cough.

The great interest of modern surgery upon the intracranial contents centers around the question of tumors, and the success of the operation will depend upon the size of the tumor, its location, the nature of it and the structural damage it may have done. Tumors of the cortex, if not too large and not gliomatous, can usually be removed successfully. Tumors of the centrum ovale, not gliomatous and not too large, can usually be removed with success, providing they can be found at the operation, but the difficulty of finding them, as I have already said, is underestimated I think by those who are not familiar with this branch of surgery. It will be noticed that I have expressed myself with caution regarding gliomatous tumors, but even here successful operations can be done.

Next to tumors the question of operation for epilepsy has been of most interest to the modern surgeon; but about this subject there has been a vast deal of confusion of thought. Epilepsy after all, is but a symptom, just as is

cough or fever, diarrhea, etc., and in any given case it first behooves us to ascertain what the epilepsy is the symptom of. As a matter of fact it is known that epilepsy may be caused by intracranial tumors, hemorrhage, fractures, lesions causing hemorrhage, and diplegia in the infant and child (such as that loss of substance which is known as porencephalus, hemorrhage, encephalitis and meningitis); and finally there is the epilepsy which is called idiopathic because the pathological alterations of the brain causing it are either not known or are not discoverable to the naked eye when they are caused by a peculiar chronic growth of fine connective tissue described by Chaslin (neuroglia of the brain), or by certain alterations in the ganglion cells of the cortex to which Bevan Lewis has lately called attention. To operate for epilepsy caused by fractures, hemorrhages and tumors is to operate for fracture, hemorrhage and tumors, and the prognosis will depend upon the prognosis of operation for fracture, hemorrhage and tumors. To operate upon the brain of a child that has had during foetal or infantile life that loss of substance to which has been given the name of porencephalus, or which has been afflicted with a foetal or infantile hemorrhage or meningitis, is to operate upon an old lesion that has long before done its mischief in destroying nerve centers and nerve strands which have arrested development of the brain and which may have left simply a cavity or atrophy of certain portions of the brain behind it, so that we can cut out a hole or an atrophied portion, or even if we do reach the old meningitis or the remains of an old hemorrhage, we cannot possibly hope to remedy by any surgical operation the secondary degeneration of nerve strands and the arrest of development of the brain. I have no hesitation therefore in stating that operation upon epilepsies of this type is totally indefensible. When we come to the cases of so-called idiopathic epilepsy I would like to ask if any man in his senses thinks it possible to localize a sclerosis that has a microscopic alteration of the fine connective tissue of the brain,

or to separate with the surgeon's knife the microscopic pyramidal cells in certain of the seven or eight layers of the cortex? The advisability of a cerebral operation for epilepsy therefore resolves itself into the question as to whether the epilepsy is due to a fracture, a recent hemorrhage and a tumor that can be reached; in which cases it is certainly advisable to operate, although even then we should be very cautious in our statements as to the effects that will be had upon the epileptic manifestations, for I have been striving for years to impress the fact that an epileptic habit once set up by what cause soever is very likely to continue. Again and again have I called attention to the fact that epilepsy, from whatever cause induced, can be beneficially affected for a certain length of time by almost anything that is done for it, so that circumcision, operations upon the deep urethra, ovariectomies, removal of laryngeal tumors, excision of cicatrices of the scalp, cutting the eye muscles, putting a seton in the neck, many remedies hitherto untried by the patient, will all have the effect of causing the epilepsy to cease temporarily, so that every new surgical operation and hundreds of new remedies have had their vogue for the time being. It is this disregard of the characteristic of the clinical history of epilepsy that leads surgeons to rush into print with a worthless history of improvement or cessation of the fits for the time being, loading down our literature with records that are valueless because they are seldom or never completed by the record of the relapses that almost invariably take place. I have known epilepsies to cease spontaneously for fifteen years and there are records of cases with an interval of twenty. There is not a record, so far as I know, of a single case of cure of epilepsy by a cerebral operation. Nevertheless I do not wish you to misunderstand me by supposing that I would not have you advise operation in a case of epilepsy caused by a removable intracranial lesion. On the contrary, I would strongly advise such an operation, but I would carefully impress upon the surgeon the necessity

of being very cautious in his statements as to whether the epilepsy would be cured thereby.

In the last few years an operation has been described by M. Lannelongue for the relief of idiocy, based upon the supposition that certain cases of idiocy are caused by premature ossification of the fontanelles and consequent arrest of development of the cerebrum, the idea being that a removal of a sufficient amount of the skull to permit of the development of the brain will enable the latter to proceed in its normal process of evolution. The operation is too recent a one to permit of any positive opinion for or against it, although the results as yet have not been encouraging, with the single exception of a case reported by Bauer.

To sum up, therefore, I would advise an operation upon the intracranial contents in cases of tumor that in size and location are removable, in cases of fracture and meningeal hemorrhage, in cases of abscess, in cases of epilepsy caused by localizable and removable lesions, and in cases of idiocy in which there has been a history of arrest of development, probably due to ossification of the fontanelles.

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IS GENIUS A NEUROBIB?*

By JAS. G. KIERNAN, M. D., Chicago,

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Great wit to madness nearly is allied,
And thin partitions do their bounds divide;
The lunatic, lover and the poet
Are of imagination all compact.

DRYDEN and Shakespere thus re-enunciate a doctrine which, early in the history of the race, obtained dominance through a natural evolution of all arts, sciences and religions from fetichism. Phenomena manifested by fetich priests (of the Shaman type) so closely resembled epileptic insanity in its frenzies and visions that the two states were long regarded as identical, whence the term "morbus sacer." The supernatural influences which in current belief underlay epilepsy were at the outset malign or benign, as they were offended or placated. They became benign and the insane were under protection of a deity, as in Mussulman countries. Later still, the demon-possession theory gained dominance and at length the demon sank into disease. Throughout all this evolution the belief in an inherent affinity between insanity and genius persisted. In Aristotle's day the disease notion was becoming dominant, yet he says:

Under the influence of head congestion persons sometimes become prophets, sybils and poets. Thus, Mark, the Syracusan, was a pretty fair poet during a maniacal attack, but could not compose when sane. Men illustrious in poetry, arts and statesmanship are often insane like Ajax or misanthropic like Bellerophon. Even in a recent epoch similar dispositions are evident in Plato, Socrates, Empedocles and many others; above all, the poets.

Plato† says that:

Delirium is by no means evil, but when it comes by gift of the gods a very great benefit. In delirium the sybils of Delphi and Dodona were

* Read before the Chicago Academy of Medicine, Dec. 17, 1891.

† Cited by Lombroso.

of great service to Greece, but when in cold blood were of little or no service. Frequently, when the gods afflicted men with epidemics a sacred delirium inspired some men with a remedy for these. The Muses excite some souls to delirium to glorify with poetry heroes or to instruct future generations.

Horace's sentiments re-appear in Dryden and his "Happy Madman" conveyed the notion that madness is sometimes a source of enjoyment.

The superficial resemblances which the misoneism of mediocrity found in the emotional enthusiasm of the intellectual stir of the poet and the opposite state of hypomaniac emotional exaltation, as well as that seeming to exist between the rapid, finely graded logic of the sage and the disjointed reasoning of the paranoiac may have helped to fix the doctrine on the sages who accepted it.

Seneca expresses the opinion that no genius exists without an admixture of madness. Burton, the "Anatomist of Melancholy," expresses similar opinions. Swift* seriously makes, with grim irony, the proposal that the world shall choose its geniuses from Bedlam. Pascal repeats Horace anent the kinship of genius and insanity. Diderot says that madness and genius are very near. In all probability the dominating influence of these opinions was the Horatian notion added to a little introspection and some obsequiousness to popular beliefs. Similar opinions crop up in the literature of our time. Ouida says that people of great genius are always a little mad, which notion she illustrates in the morality and mentality of her heroes. Lord Beaconsfield† says:

I have sometimes half believed, though the suspicion be mortifying, that there is but a step between his state who deeply indulges in imagination and insanity.

Nisbet‡ says that:

Genius, insanity, idiocy, scrofula, rickets, gout, consumption and the other members of the neuropathic family of disorders are so many different expressions of a common evil – an instability or want of equilibrium in the nervous system.

* "Tale of a Tub," Digression on Madness.

† "Contarini Fleming."

‡ "The Insanity of Genius."

Jean Paul Richter observes that:

The genius is a true somnambule. In his lucid dreams he sees farther than in his waking moments and attains the greatest height of truth. When carried from the ideal he is dashed into the real.

Sully expresses the opinion that:

Carlyle* compels the attentive reader to propound to himself anew the long-standing puzzle: Is genius something normal or sane? As might be expected, French writers, with their proclivity for pungent paradox, have dealt with special fullness on this theme. "Great wits," writes Montaigne, on a visit to Tasso in his asylum, "find themselves ruined by their own powers and skill." Lamartine observes that "genius carries within a principle of death, destruction and insanity, as fruit carries the worm and again he speaks of that mental malady called genius."

Schopenhauer advances similar notions. Nor do the *literati* and psychologists stand alone. Moreau† de Tours insists that genius is a neurosis. Hagen‡ remarks that:

The irresistible impulse is characteristic of genius. Instinct impels an animal to certain acts to the danger of even its own existence. Thus genius dominated by one idea cannot abandon itself to another. Napoleon and Alexander conquer not for love of glory, but in obedience to an all-powerful instinct. Scientific genius cannot cease its activity. It see ningly exhibits what it does not really possess, free will. Genius create, not because it wishes, but because it must.

Similar views are expressed by Grissom, Radestock and Tarnowsky. Lombroso§ among alienists and Nisbet|| among psychologists, have done most work in collecting biological data to support this view, which has been also supported in the elder Disraeli¶ and Kate Sanborn.** Huxley says:

Genius is innate capacity of any kind above the average mental level. From a biological point of view a genius among men stands in the same position as a "sport" among animals and plants and is a product of that variability which is the postulate of selection, both natural and artificial. On the general ground that a strong and therefore markedly abnormal variety is, *ipso facto*, not likely to be so well in harmony

* *Popular Science Monthly*, 1884.

† "La Psychologie Morbide."

‡ "Allgem Zeitschrift Psych.," 1877.

§ "Man of Genius," Scribner & Welford, Ed.

|| "Insanity of Genius."

¶ "Calamities and Quarrels of Authors."

** "Insanity and Vanity of Genius."

with existing conditions as the normal standard (which has been brought to what it is largely by the operation of those conditions), a large proportion of "genius sports" are likely to come to grief physically and socially and the intensity of feeling which is one of the conditions of genius is especially liable to run into insanity.

The alienists, Lombroso states, have fixed certain stigmata of degeneracy. The moral stigmata are apathy, absence of moral sense, impulsive tendencies, doubting tendencies, psychic inequality and disproportion, caused by atrophy or hypertrophy of certain faculties (memory, association, æsthetic sense, moral sense), verbosity or excessive taciturnity, imbecile vanity, excessive egotism, mystic interpretation of ordinary facts, abuse of symbols and emphasis to such an extent as to lead to suppression of other forms of expression. The physical stigmata are pointed ears, rarity of beard, irregularities of the jaws and teeth, excessive facial and head asymmetry, sexual precocity, left-handedness, stammering, rachitis, phthisis, excessive fecundity neutralized later by abortions. These are preceded by anomalies always greater in childhood. Similar phenomena are found to a great extent among men of genius. Physical signs of degeneration are present but masked by the vivacity of the countenance and the prestige of reputation, which prevents their due importance being realized. The simplest of these, which has long been a proverb, is the smallness of the body. Famous for short stature as well as genius were: Horace, Philopemen, Narses, Alexander, Aristotle, Plato, Epicurius, Chrysippus, Laertes, Archimedes, Diogenes, Attila, Epic-tetus, Erasmus, Socinus, Linnæus, Lipsius, Gibbon, Spinoza, Hay, Montaigne, Mezeray, Lalande, Gray, John Hunter, Mozart, Beethoven, Goldsmith, Hogarth, Thomas Moore, Thomas Campbell, Wilberforce, Heine, Meissónnier, Charles Lamb, Beccaria, Maria Edgeworth, Balzac, DeQuincy, William Blake, Browning, Ibsen, George Eliot, Thiers, Mrs. Browning, Louis Blanc, Mendelssohn, Swinburne, Van Does, Peter van Laer, Lulli, Pomponazzi, Caldini, Nicholas Piccinninni, Dati and Baldo. Albertus Magnus was of such small size that the Pope, having allowed him to kiss his foot,

commanded him to stand up, under the impression that he was still kneeling. When the coffin of St. Francis Xavier was opened at Goa, in 1890, the body was found to be only four and a half feet in length.* Of tall great men Lombroso recalls but Volta, Goethe, Petrarch, Schiller, D'Azeglio, Helmholtz, Foscolo, Charlemagne, Bismarck, Moltke, Monti, Mirabeau, Dumas père, Schopenhauer, Lamartine, Voltaire, Peter the Great, Washington, Dr. Johnson, Sterne, Arago, Flaubert, Carlyle, Tourgueneff, Tennyson, Whitman.

Agesilaus, Tyrteaus, Æsop, Giotto, Aristomenes, Crates, Galba, Brunelleschi, Magliabacchi, Parini, Scarron, Pope, Leopardi, Talleyrand, Scott, Owen, Gibbon, Byron, Dati, Baldini, Moses Mendelssohn, Flaxman, Hooke, were rachitic, lame, hunchbacked or clubfooted. Pallor has been called the color of great men. Marro states this is a most frequent sign of degeneration in the morally insane. The law of the conservation of energy which rules the whole organic world explains other frequent abnormalities, such as precocious grayness and baldness, leanness of the body and weakness of sexual and muscular activity, which characterize the insane and are also frequently found among great thinkers. Lecamus has said that the greatest geniuses are encased in the slenderest bodies. Cæsar feared the lean face of Cassius. Demosthenes, Aristotle, Cicero, Giotto, St. Bernard, Erasmus, Salmasius, Kepler, Sterne, Walter Scott, John Howard, D'Alembert, Fénelon, Boileau, Milton, Pascal, Napoleon, were extremely thin in the flower of their age. Others weak and sickly in childhood were Demosthenes, Bacon, Descartes, Newton, Locke, Adam Smith, Boyle, Pope, Flaxman, Nelson, Haller, Korner, Pascal, Wren, Alfieri, Renan. Ségur said Voltaire's leanness recalled his labors and that his slight, bent body, was only a thin transparent veil, through which one seemed to see his soul and genius. Lamennais was "a small, almost imperceptible man, or rather, a flame chased from one point to another by the breath of its innate restlessness."

* See Ireland's "Ivory Gate" for *post-mortem* causes of this.

Mind, the "Katzen-Raphael," Socrates, Skoda, Rembrandt, Dostoieffsky, Magliabecchi, Pope, Carlyle, Darwin and Schiaparelli, the mathematician, had cretinoid physiognomy.

Cerebral and cranial lesions are frequent. The Australian novelist Clarke, when a child, had his skull fractured and the same was the case with Vico, Gratry, Clement VI. Malebranche and Cornelius. To skull fracture in the last three was due their genius. Fusiniere's skull had a parietal fracture. Pericles, Bichat, Kant and Dante had asymmetrical skulls. Dante's skull had abnormalities of the left parietal and frontal osteomata. Brunocci and Machiavelli were plagiocephalic. Foscolo was extremely prognathous and had a low cephalo-spinal and cephalo-orbital index. Fusiniere's ultra-dolichocephaly, contrasted markedly with the ultra-brachycephaly of other Venetians. Robert Bruce, Kay Lye and San Marsay had neanderthaloid skulls. The ultra-dolichocephaly of Daniel O'Connell contrasted markedly with Irish mesocephaly. Scarpa's skull had a median occipital fissure. Kant had a frontal and a transverse occipital suture. His skull was ultra-brachycephalic and platicephalic. Volta's skull had an obtuse facial angle, traces of the metopic suture, a simple coronal suture and prominent styloid processes. Manzoni, Petrarch and Fusiniere had retreating foreheads. Premature suture-closure occurred in Byron, Pascal, Massacra, Humboldt, Meckel, Foscolo, Ximenes and Donizetti.

Sub-microcephaly existed in Descartes, Rosori, Foscolo, Tissot, Guido, Reni, Hoffmann and Schuhmann. Sclerosis existed in Donizetti, Fiedemann and Volta. Hydrocephalus was present in Swift, Milton, Linnæus, Cuvier and Gibbon. Ventricular dropsy was present in Rousseau. Meningitis occurred in Grossi, Donizetti and Schuhmann. Cerebral œdema in Liebig and Fiedemann.

Stammering was present in Manzoni, Æsop, Virgil, Demosthenes, Alcibiades, Erasmus, Charles Darwin, Cato, of Utica; Malherbes, Turenne Romiti, Charles V., Cardan and Tartaglia.

Left-handedness was present in Tiberius, Bertillon, Sebastian del Prombo, Michael Angelo, Flechia, Nigra, Buhle, Raphael de Montelupo and Leonard da Vinci who sketched rapidly with his left hand images which most vividly and quickly impressed him, and used his right for those which were the result of ripe thought. Many great men were celibates and others who were married had no children. Shakespeare, Johnson, Otway, Milton, Dryden, Rowe, Addison, Pope, Swift, Gay, Jonson, Goldsmith and Cowper have had no posterity. Camden and Hobbe did not marry, so as to study, and Michael Angelo did not marry in order to study art. Kant, Newton, Fox,* Pitt, Fontanelle, Beethoven, Gassendi, Locke, Spinoza, Boyle, Leibnitz, Dalton, Hume, Gibbon, Macaulay, Bentham, Leonard da Vinci, Reynolds, Handel, Mendelssohn, Meyerbeer, Camoens, Voltaire, Flaubert, Alfieri, Cavour, Pellico, Mazzini, Florence Nightingale, Dorothy Dix, Catherine Stanley, Gaitune Agnesi and Louise Laura Bassi were celibates. Cavenish had no sexual instinct and hated women. The non-resemblance of the men of genius to parents was noted in Foscolo, Michael Angelo, Giotto and Hoyer. Humboldt, Virchow, Bismarck, Helmholtz and Hultzendorf did not have German faces; Byron had neither an English face nor English character. Mannen was not of the Venetian type nor were Alfieri and Azeglio, of the Piedmontese, nor had Carducci the Italian physiognomy. Many exceptions, however, must be noted. Michael Angelo, Raphael, Leonard da Vinci and Cellini were of the Italian type.

Precocity is common to insanity and genius. Dante composed a sonnet to Beatrice at seven and Tasso at ten. Comte and Pascal were thinkers at thirteen, Fournier at fifteen, Nubuhr at seven, Jonathan Edwards at twelve, Michael Angelo at nineteen, Gassendi at four (preached), Bossuet at twelve and Voltaire at thirteen. Pico de Mirandolo in his childhood knew Latin, Greek, Chaldaic, Hebrew and Arabic. Goethe wrote several

* Fox was married.

languages before the age of ten. Wieland at seven knew Latin, meditated an epic at thirteen and published a poem at sixteen. Lopez de Vega wrote his poems at twelve. Calderon published his "Chariot of Heaven" at thirteen. Kotzebue attempted comedies at seven and wrote his first tragedy at eighteen. Victor Hugo wrote "Irtameus" at fifteen and published before the age of twenty "Hans, of Iceland," "Bug-Jargal" and his first volume of "Odes and Ballads." Lanennais wrote the "Words of a Believer" at sixteen. Pope wrote an "Ode on Solitude" at twelve and at sixteen his "Pastorals." Byron made poetry at twelve and published his "Hours of Idleness" at eighteen. Moore translated "Anacreon" at sixteen. Meyerbeer was an excellent pianist at five. Claude Joseph Vernet drew in crayons at four and was celebrated as a painter at twenty. Wren invented an astronomical instrument and dedicated it in Latin to his father at four. At thirteen Ascoli published a work in Wallachian and Triouliau dialects. Metastasio improvised at ten. E. Q. Visconti was a marvel of intelligence at sixteen months and preached at six years. Fénelon preached an excellent sermon at fifteen. G. Wetton could translate Latin, Greek and Hebrew at five and at ten knew Chaldaic, Syriac and Arabic. Mirabeau preached at three and published books at ten. Händel composed a Mass at thirteen, at seventeen composed "Florinde" and "Nero" and at nineteen was a theater director. Raphael was renowned at fourteen. Relief de la Bretonne had read much at four, seduced girls at the age of eleven and at fourteen composed a poem on his first twelve mistresses. Eichhorn, Mozart and Eybler gave concerts at six. Beethoven composed three sonatas at thirteen. Weber's opera, the "Wood-Maiden," was publicly represented when he was fourteen years old. Cherubini enthused the populace with a Mass at thirteen. Bacon conceived his "Novum Organum" at fifteen and Charles XII. planned his conquest at eighteen.*

* Surroundings have much to do with plans.

The tardy development of men of genius is explained by the absence of favorable circumstances and by the ignorance of parents and masters and the obtuseness or even stupidity where the obstruction of genius is present. Thiers, Pestalozzi, Wellington, DuGuesclin, Clark, Burns, Fresnel, Dumas Père, Humboldt, Sheridan the elder, Boccaus, Pierre Thouar, Linnæus, Volta and Alfieri were regarded as dullards at school. Newton forgot his mother's errands while thinking about Kepler's problems. He was an excellent mathematician, but at the foot of the class, as was Sir Walter Scott, albeit, a vivid *raconteur*. Klaproth, the Orientalist, was a backward student; taught himself Chinese. Flaubert learned to read with difficulty and could not write when he created characters who held long talks. Cabanis was regarded as hopeless and left to study as he would.*

Genius, like children and philistines, is the enemy of novelty. Schopenhauer, a rebel in philosophy, left his fortune to the reactionists who crushed the 1848 revolution.†

Frederic the Great, did not suspect the genius of Lessing, Goethe and Herder.‡ Rossini would not ride on a railroad.§ Napoleon attempted to crush steam, and Richelieu sent Solomon de Caus, one of its earliest inventors, to the Bicêtre|| in the seventeenth century. Bacon ridiculed the use of instruments in experiment and the application of mathematics in physics.¶

Biot** denied the wave theory. Darwin†† did not accept the objective origin of hypnotism nor the theory of a universal age of stone.

* Much of these phenomena are ascribable to the philistinism of schoolmasters of the Choakum child type.

† Was this due to genius or his morbid pessimism?

‡ This was a reaction against his father's Germanism. His love of French literature and his ignorance of German, was evidence, not of misonelism, but of philoneism.

§ Normal fear of a relatively untried clumsy anæsthetic conveyance.

|| Fear of popular tumult, raised by existing interest, caused these political dodges, which were no evidence of misonelism.

* This was buncombe to flatter a notion of the "Wiseest fool in Christendom," James I. of England.

** Suspension of judgment, not misonelism.

†† Suspension of judgement, not misonelism. Most neurologists deny any objective origin of hypnotism. The universality of the stone age is by no means established to-day.

Errabund tendencies are frequent among men of genius. Heine, Alfieri, Byron, Giordano Bruno, Leopardi, Gautier, Goldsmith, Cellini, Petrarch, Tasso, Sterne, Musset, Lenau and many others were noted for these.*

Seeming grounds hence exist for this widespread, long-standing opinion. It is also evident that while the misoneism of the mediocre would suffice to create such an opinion there must be persistent analogies to justify its continuance. Foremost among these is that with the emotional states in insanity. Does insanity ever seemingly develop artistic, poetic, mechanical or scientific skill? Poetry and the arts are an emotional expression of a recognition of similarities in seemingly unlike things. Hence the fine artistic frenzies of poet and artist are not unlike the emotional exaltation of insanity. Nor is the simulation seemingly confined to outward likeness. Many a matter-of-fact patient, as I have elsewhere pointed out,† has in the emotional stages of insanity composed respectable poetry and lost this faculty on recovery. Rush‡ points out that :

The records of wit and cunning of madmen are numerous in every country. Talents for eloquence, poetry, music, painting and uncommon ingenuity in the mechanical arts are often evolved in this stage of madness. A gentleman whom I attended in a hospital, in 1810, often delighted us by his displays of oratory, from a cart in the yard. A female patient of mine, who became insane after parturition, in the year 1810, sang hymns and songs of her own composition, during the latter stages of her illness, with a tone and voice so pleasant that I hung over it with delight every time I visited her. She had never discovered any talent for poetry or music in any previous part of her life. Two instances of a talent for drawing, evolved by madness, have occurred within my knowledge. Where is the hospital for mad people, in which elegant completely rigged ships and curious pieces of machinery have not been exhibited by persons who never discovered the least turn for a mechanical art previously to their derangement. Sometimes we observe in mad

* The influence of the social law which compelled tradesmen and scholars to wander from place to place (still evident in the term "Journeyman"), has not been taken into account. This law is strongest in the Celto-Teutonic races and has passed into an English proverb: "Home-keeping youth have ever homely wits." Lombroso here, as elsewhere, ignores racial and sociological facts applicable to individual cases.

† ALIENIST AND NEUROLOGIST, 1887.

‡ "Medical Enquiries and Observations."

people a resuscitation of knowledge; hence we hear them describe past events and speak in ancient languages or repeat long and interesting passages from books, none of which they were capable of recollecting in their naturally healthy frame of mind.

Forbes Winslow* also points out that:

In the stage of morbid exaltation, the patient frequently exhibits a talent for poetry, mechanics, oratory and elocution, quite unusual and inconsistent with his education and opposed to his normal habits of thought. His witty sallies, bursts of fervid and impassioned eloquence, readiness at repartee, power of extemporaneous versification, mechanical skill and ingenuity, amaze those who were acquainted with this patient or his situation in life. A quickness of perception, a facility and propriety of utterance quite unusual, become, in some cases, quite manifest. A young gentleman had an attack of insanity, due to rough ill-usage at school. He had never exhibited any mathematical ability; it was claimed he could not even add. While recovering from his maniacal attack, he developed an extraordinary arithmetical ability. This disappeared on his recovery. The wife of a clergyman developed, during her maniacal paroxysms, a wonderful talent for rapid and clever versification. Before her insanity and after her recovery no such powers were present.

Cibbert† has seen:

A ship of straw finely fabricated by a mad ship-builder, and the most lovely attitudes have been represented by a lunatic statuary in his cell.

Pinel has observed a perpetual motion paranoiac who devised very ingenious and intricate machines. Esquirol has had under care an insane general who devised a military weapon afterwards adopted by the army. Lombroso has reported the case of a female farm-laborer who, during insanity, developed a talent for drawing and embroidery; tracing butterflies so naturally that they seemed to have alighted on the frame.

Savage,‡ evidently biased by the Huxleyan idea, says that:

Genius is usually associated either with some incomprehensible faculty for dramatic portraiture of self-existent abnormal emotion, or altogether dependent upon simple over-development of an individual faculty of mind. * * It is an exception to find patients with unusual

* "Diseases of the Brain and Mind."

† "Life of Lee."

‡ "Insanity."

capacity of any kind among the inmates of an asylum. There may be found "specialists" or men with persistence in limited pursuits. A Bethlehem patient devoted years to the polishing of pebbles, and the sole object in life of another was to polish brass faucets. * * * It appears as if there were for each individual an average amount of nerve power to be expended and if an average amount be got rid of in one direction, there naturally results a deficiency in another quarter; in fact, there is a loss of balance. Waste of balance fairly describes the mental state of many a genius. * * * Another way in which to look upon the relationship of genius and insanity is to consider precocity. Precocious children are commonly the offspring of insane and nervous parents. * * * The children of the insane may develop special aptitudes or passions at the expense of the rest of the nervous development. The special aptitudes are for music, sometimes for art and mathematics, and a wonderfully retentive memory may be present. It is rare to see such a child with all these talents developed at the one time, but it is common to see a child with one or more, who is totally wanting in moral sense. * * * The intellectual abilities of many of these morally insane people are striking, but they are further evidence of want of balance.

"Idiot savants," as they have been excellently designated by Langdon Downs,* are an apt illustration of some propositions laid down by Savage:

These idiot savants are children who, while feeble-minded, exhibit special faculties capable of being cultivated to a very great extent. One youth, under his care, could build exquisite model ships from drawings and carve with great skill, but who could not understand a sentence, who had to have his food dissected for him.

Extraordinary memory is met with associated with very great defect of reasoning power. * * * Cases exist where the power of mental arithmetic exists to an astonishing extent. Improvisation is an exceptional faculty, while memory of tune is a very common faculty. One boy would carry away in memory, from his attendance on the opera, every air and words, and sing them correctly. To this last category "Blind Tom" belongs.

Clouston has cited several cases of similarly gifted idiots, capable of acting as an encyclopedia but incapable of learning to stool elsewhere than in their clothing. Periodical lunatics under my own charge have displayed artistic tendencies just precedent to the excited period. Rhythmic rhymed improvisation always preceded a period of excitement in another case. A Cook County para-

* ALIENIST AND NEUROLOGIST, 1886.

noiac, during the development of his "discovery" of "perpetual motion," acquired such an electrical ability that his advice was always accepted anent repairs to the insane hospital electric lights. A paranoiac physician under my care at Ward's Island, devised a ship ventilator adopted in several navies. Another exhibited no little skill in moulding birds from dough. He was an excellent carver in wood and displayed great skill, but also a tendency to obscenity and to arabesques. These last, as Lombroso, Pisani-Dossi and Tebaldi observe, are frequently characteristic of the art of the insane.

Philomneste found that of forty-five insane authors thirteen occupied themselves with theology, fifteen with poetry, five with prophecy, three with autobiography, two with psychiatry and two with statecraft. The tendency of paranoiacs is toward theology, science and psychology. My own experience with insane authors has been similar to Philomneste, except that insane theologians, mechanical geniuses, physicians and legal lights predominate above the poets, while the autobiographers are much more frequent. The physicians are imbued with charlatan-like twists; vegetarianism, Hahnemannia, alcoholophobia, Thompsonianism, antihydrargyrism dominate their dietary and therapeutic arsenal. The insane legists had a bitter antipathy to the common law and were enthusiastic codifiers.

The alleged intellectual association of insanity and genius would seem therefore to be justified. Scientific rules of evidence, however, require that a hypothesis, to be accepted, must not only explain all the facts but must exclude all other explanation. The necessity of the enforcement of this rule is fully indicated by the following remark of Kate Sanborn, who leans to the morbidity theory:

But it is wise to take an occasional look at the other side of the argument, lest we fall into the mistake, made by Madden and Moreau, of thinking a genius insane if he be guilty of the most harmless eccentricity or had a grandmother who was afflicted with epilepsy.

Charles Lamb* says:

So far from the position holding true that great wits or geniuses, in our modern way of speaking, has a necessary alliance with insanity, the greatest wits, on the contrary, will ever be found to be the sanest writers. It is impossible for mind to conceive of a mad Shakespere. The greatness of wit (by which the poetic talent is here understood) manifests itself in the admirable balance of all the faculties. Madness is the disproportionate straining or excess of any one of them. The ground of the mistake is that men, finding in the raptures of the higher poetry a condition of exaltation to which *they* have no parallel in *their* own experience, besides the spurious resemblance of it in dreams and fevers, impute a state of dreaminess and fever to the poet; but the true poet dream being awake he is not possessed by his subject but has domination over it. In the groves of Eden he walks familiar as in his native paths. He ascends empyrean heaven and is not intoxicated. He treads the burning marl without dismay. He wings his flight without self-loss through realms of chaos and old-night. Or if abandoning himself to that severer chaos of human mind untuned he is content awhile to be mad with Lear or to hate mankind (a sort of madness) with Timon; neither is that madness nor this misanthropy so unchecked but that never letting the reins of reason wholly go, while most he seems so to do—he has his better genius whispering at his ear, with the good servant Kent suggesting saner counsel, or with the honest steward Flavius recommending kindlier resolutions.

Maudsley,† somewhat biased in the morbidity direction, says that:

It is undoubtedly true that where hereditary taint exists in a family one member may sometimes exhibit considerable genius while another is insane and epileptic, but the fact proves no more than that there has been in both a great natural sensibility of nervous constitution which under different outward circumstances or internal conditions has issued differently in the two cases. Such a condition, moreover, is not characteristic of the highest genius, since anyone possessing it lacks by reason of his great sensibility, the power of calm, steady and complete mental assimilation and must fall short of the highest intellectual development of the truly creative imagination of the greatest poet and the powerful, almost intuitive ratiocination of the greatest philosopher. His insight may be marvelously subtle in certain cases but he is not sound and comprehensive. Although it may be said then by one not caring to be exact that the genius of an acutely sensitive and subjective poet denoted a morbid condition of nerve element, yet no one after a moment's calm reflection, would venture to speak of the genius of such as Shakespere and Goethe as arising out of morbid conditions.

* "Essays."

† "Pathology of the Mind."

Herbert Spencer* says anent the great man, that:

Along with the whole generation of which he forms a part, along with its institutions, language, manners and its multitudinous arts and appliances he is a resultant. The genius of the great man depends upon the long series of complex influences which have produced the race in which he appears and the social state into which that race has grown. All those changes of which he is the proximate initiator have their chief causes in the generation he is descended from.

Shelley† puts the same idea poetically:

Thought by thought is piled till some great truth
Is loosened and the nations echo round.

Flourens‡ says:

I could as soon believe in the assimilation of vice and virtue as in that of genius and insanity. We are eternally reminded of the hallucinations of Pascal and Socrates. Does this prove that hallucination is genius or that it produces genius? Without their hallucinations would not Socrates still have had his good sense and Pascal his *grand esprit*? Are not the relations of genius and insanity merely external, occasional and fortuitous?

It must be admitted hence that the psychological processes of genius, viewed from this stand-point, differ decidedly in essence albeit outwardly resembling the mental processes of the insane. The subtle chain of associating which constitutes genius in its highest and truest sense differs very decidedly from this disjointed type. The highest poetic genius runs rapidly from association to association until it forms an entity comparable with the "working hypothesis" of science. Huxley's dictum anent the scientific use of the imagination conveyed a profound truth. Feuchtersleben§ says, in language which supports the dicta of Herbert Spencer, Charles Lamb, Flourens and Maudsley, that:

By imagination is meant, in a more comprehensive sense, that operation of the mind by which it receives, retains, recalls and combines the ideal images furnished to it by the cœnæsthesia and by the senses, for all these actions are manifestly links of one chain. At the first step, this

* "Principles of Sociology."

† "Prometheus Unbound."

‡ "De la Genie, du Raison et de La Folle."

§ "Medical Psychology."

operation is called the faculty of conception; at the second, memory; at the third, reproductive fancy and at the fourth, productive fancy. In this last the imagination rises to that sphere where it appears as productive or creative and which is called, in the stricter sense of the term, fancy and in its spontaneity, poetic power. Fancy deceives us when it claims an absolutely productive or creative power. This power is conditional and cannot exist without matter from the store of the imagination in the first place. Fancy only fashions this matter, which is always more than merely putting it together (the eyes of Juno, nose of Apollo, brow of Minerva and smile of Venus would produce an absurdity, not a masterpiece of fancy). Fancy is, therefore, productive in the form. Fancy is most peculiarly that which distinguishes the individual. In this sense, we are also to seek in the fancy for the foundation of peculiar talent; nay, even with respect to the arts, even of genius. Fancy harmonizes all the higher energies, thought and will with sensation and all the inferior energies with thought. It harmonizes all sensations and conceptions with each other. These harmonizing qualities of fancy constitute it the nurse of the intellectual as the vegetative power of the mind, for as the humorous Hippell not unaptly says: "Everyone is mentally weak whose powers of imagination are weak, for fancy is the lung of the mind."

Nearly every psychologist has dealt with the problem from the aspect of the postulate that a "conscious mental process" is characteristic of the normal type of mind and that the opposite is the case with genius. This notion, which strongly influences Moreau de Tours, Maudsley and Lombroso, has been exploded by Herzen,* who demonstrates that:

The conscious mental process betrays an imperfection of the cerebral organization, for it indicates the presence of a new unusual activity which deranges the equilibrium, the innate or previously acquired automatism and which does not find a well formed mechanism ready to discharge it. The conscious mental process is the transitory phase of an inferior to a superior cerebral organization. It expresses novelty, incertitude, hesitation, groping, astonishment, imperfect association and incomplete organization, a want of promptitude and exactness in transmission, a loss of tenure in the phenomena of reaction. It indicates that the nervous paths are not sufficiently cleared or distinctly enough traced, to permit without destruction in the final effect, reflex movements or reflex ideational sensations.

The degree of conscious mental processes will determine the amount of attention. Attention, as Darwin†

* *Journal of Mental Science*, 1884-5.

† "Descent of Man."

points out, is more important than any other human faculty for intellectual progress. He cites as an illustration the case of an animal trainer who found that an attentive monkey could be trained while an inattentive one could not. The amount of attention will hence be comparatively little in the ape, lunatic and philistine, since, as Herzen points out, the power of new ideas to create states of uncertainty will depend on the absence or presence of preformed paths, or in other words, on the power of association. This power being greatest in the genius the power of attention is greatest in him. Hagen takes issue with this position and claims that genius differs from the normal type in being dominated by one idea which it cannot abandon. The error involved in this led to his blunder anent Napoleon. Ribot* hits at the error involved in Hagen's dictum when he says that:

In every sane person there is almost always one dominant thought which controls his conduct—the thought of pleasure, money, ambition, his soul's salvation and the like. This fixed idea, which persists through life save where it is superseded by some other, finally becomes a fixed passion, which proves that attention and all its modes depend upon affective states. The transformation of attention into a fixed idea is still more clearly seen in great men. "What is a great life?" asks Alfred de la Vigne. "A thought of youth realized in mature years." If men in mass be observed—not persons of trained and cultivated minds, as psychologists almost always do—it will readily be seen that spontaneous and above all, voluntary attention, are exceptional states. Eliminate first the routine of life—that vast mass of habits which make us act like automata, with vague and intermittent states of consciousness—eliminate those periods of our mental life in which we are passive, because the order and succession of our states of consciousness come from us from without and the series of states is imposed upon us in reading a book of average interest, or work manually or otherwise presupposing a succession of acts in a set order. Eliminate the state of relative repose wherein one is thinking of nothing at all—that is, wherein the states of consciousness have neither intensity nor clear definition—as reverie in all its degrees; eliminate states of passion and strong agitations with their irregular fluctuations and their diffusion of movement. These, and perhaps a few other states, eliminated, what remains may be credited to the general account of attention; and in this general account he cases of spontaneous attention constitute the great majority of the

* "Attention."

entries, while the clear and indisputable cases of voluntary attention are few: with many men they hardly amount to anything.

Maudsley says anent attention:

What then takes place is simple excitation of certain nervous currents of ideation and maintaining them in activity till they shall have brought into the consciousness all the associated ideas, or, at least, as many ideas as can be put into action in the momentary state of the brain. It hence appears that attention is rather a *vis a fronte* than a *vis a tergo*. Consciousness is the result, not the cause of attention. In the current language of psychology this proposition is reversed and the cart is put before the horse, for in reflection the question is not of directing consciousness or attention to an idea, but of giving to an idea sufficient intensity so that it will impress itself in consciousness.

The fact that attention was the chief element in genius has been noted and recognized by many psychologists. Helvetius, Cuvier, Buffon and Lord Chesterfield all agree that genius is nothing but a power of continuous attention. The psychological principles just outlined would apparently destroy what is called the "spontaneity" of genius. As this term is ordinarily used, this "spontaneity" does not exist. Macaulay* points out that:

Barrère had one of such quality, which in active life often gives fourth-rate men an advantage over first-rate men. Whatever he could do, he could do without effort, at any moment, in abundance on any side of any question.

This is mistaken by aspiring mediocrity for genius and it is precisely this quality which is most frequent in mediocrity and insanity and rare in genius. Ask the student of English literature whose diction is purest and least labored and nine out of ten will reply, Oliver Goldsmith, yet his latest biographer† points out that:

Goldsmith, though he could turn out plenty of manufactured work for the booksellers, worked slowly at the work with which he meant to strike for honest fame. Mr. Cooke calling on him one morning, found Goldsmith had written that day ten lines of the "Deserted Village." "Come," said Goldsmith, "let me tell you, this is no bad morning's work."

A discriminating, albeit unfriendly critic,‡ says the same anent Tennyson:

* "Essays," Barrère.

† "English Men of Letters," Goldsmith.

‡ *Philadelphia Times*, 1884.

. To Tennyson all verse-making is toil, but he has no talent for this. He is apt to appear at his worst when writing to order, for he is well nigh destitute of "spontaneity" in the usual sense. To do his best or anything like it he must have ample time to follow his own thought and thread. He must incubate his treatment of a theme by a very slow and painful process. He can no more throw off anything than the Ceylon oyster can throw off a pearl.

Milton and Dryden are illustrations of the same kind. The long development of Faust is another instance in point.

To the limitedly educated mind of the average philistine, insane delusions seem akin to poetic fancy because he has never passed from the tyranny of custom and, to his misoneism, novelty is productive only of incertitude. Indeed the delusions of the insane are so much akin to his own mental limitations that he is very apt to look upon them as evidences of sanity while he denounces the fancies of the poet or artist, the opinions of the scientist or the creed of the ethical teacher, which cause him more mental perturbation, as emanations from cranks. In politics this type of philistine has more than once denounced the "golden rule" as the "iridescent dream" of a lunatic. Such philistinism pleases the misoneism of the mediocre, whence the enthusiasm over platitudes and the reign of the philistine in newspaper art, literature and science, and whence the frequent repetition of Horace's epigram. The fundamental error is that so often made in medicine—individual cases are forced into the procrustean bed of nomenclatures. If the case don't fit so much the worse for the patient. This psychological error is detectable all through the authorities cited and is especially noticeable in Hagen, Lombroso and Nisbet.

Does the psychiatric and biological evidence afford stronger proof than the psychological? At the outset of an analysis of psychiatry of genius, the morbidity of genius theorist is met by two hypotheses anent the relationship of genius to insanity. He must exclude the possibility of a healthy, conservative, inherited factor struggling against the incubus of disease and producing the

phenomena he regards as genius due to disease. He must, also, exclude the possibility of insanity removing checks on expression of ideas which result from timidity and also checks which have existed on the expression of "unconsciously assimilated" ideas. In ordinary life, as well as to a less extent among the idiots and insane, much is unconsciously assimilated by the mind, but remains without association with the daily life of the assimilator. A very striking illustration of this is cited by Coleridge :

A twenty-four-year-old servant was seized by a nervous fever with delirium, during which she incessantly spoke Latin, Greek and Hebrew with a very distinct enunciation. The girl, before her illness, had been a simple unlearned, harmless creature. The attendant priest referred her case to "possession by a very learned devil." This explanation did not suit the attending physician, who found that she had been for several years after the age of nine, an inmate of the family of a protestant clergyman, whose constant nightly habit was to read passages corresponding to the girl's ravings from his favorite books, walking up and down a narrow passage near the girl's kitchen.

The expression of such ideas, however, soon sinks beneath the storm of disease, and it is only in the lucid or paralucid period such tendencies become demonstrable. Even in insane poets a relatively normal interval, produced by memory through attention, has much to do with poetic effusions. Pinel* reports the following excellently illustrative case of this:

An old scholar at times was incoherently garrulous and at others sternly and savagely silent. When poetry, in which he formerly delighted, was suggested to his memory, he became capable of continuous attention and composed verses in which there was order and justice in the sentiments, a delicate play of fancy and some very happy sallies.

The factor of concentration by outside stimulus in insane hospitals cannot be excluded. Prisoners often display an unsuspected mechanical ability when forced so to do to avoid *ennui* in prison. The persons whom Savage calls "specialists" and even much higher types are the extreme of this. Many cases of "one-sided"

* "Maladies Mentales."

genius are directly traceable to memory alone, whence their inability to correlate their acquisitions with the necessary consequences of these. While "one-sided" genius approaches true genius, there is a difference of kind, not degree, between them.

The foremost biological argument is advanced by Huxley in his claim that genius is a "sport." A "sport" is something so demonstrably and decidedly differing from its contemporaries and its ancestors as to compel attention. This opinion of Huxley varies decidedly from that of Herbert Spencer, already cited and from that expressed by Shelley, in "*Prometheus Unbound*."

This slow accretion, as an article on *Idiosyncrasies** several years ago demonstrated, is sufficient to produce all the phenomena of genius and evidences are found of such accretion. The Elizabethan epoch was one of giants in all departments of human thought. Shakespere does not stand alone. There is a galaxy of thinkers—Ben Jonson, Beaumont, Fletcher, Ford, Marlowe, Greene, Drake, Bacon, Raleigh, Spencer and Sidney are sufficient to recall this fact. Shakespere and these owed much to the Italian renaissance.† Shakespere's adaptation of Greene's novel, "*Pandousta*," into the "*Winter's Tale*," drew forth Greene's denunciation of a "miserable shakescene decked out with our feathers." Indeed, the whole age and that preceding is replete with intellectual stir. The influence of these slighter factors of evolution has been fully recognized by Macaulay when he says that Bacon's intellect in an age of Scottists and Thomists would have run to waste, as did intellects no less great. Indeed, in many respects Carlyle's "*Heroes and Hero-Worship*" teaches a much truer doctrine, especially when we remember that the genius is, as Spencer points out, the type of his period. Certainly Scott was the typical Lowland Scotchman of his period. The transition to Scott from the pithy humor and songs of numberless

* "*Mind*," 1884.

† Roscoe, in his "*Italian Novelists*," points out Shakespere's debt to these.

Lowlanders is easily traceable. The Lowlander was but the inheritor of tendencies which had found expression in the beautiful myth of the Christlike god Balder and in the melody of the *sagas*. Boswell's pithiness, which has admittedly made him the prince of biographers, clearly came from the "Auld laird of Auchinleck," who answered Johnson's demand as to what services Cromwell had rendered England, by the epigrammatic remark: "He gart kings ken they had a lithe in their neck." The blow at the divine right of kings could not be more tersely expressed. The Lowlands and the English Northumbria were settled by Scandinavians, whose love of melody remains in the *sagas*. This blood was mingled with that of both Cymric Celts like those who wrote the Mabinogion and Gaelic Celts, whose ballads seemed to Spencer to contain "the pure gold of poetry." Byron was an outcome of this strain. In him the blood of the poet-statesman, the Celt-Scandinavian, James I. of Scotland, mingled with that of the Scandinavian Buruns. To the same strain may be referred Ramsay, Scott, Hogg, Burns, Campbell, Hume, Adam Smith, Macaulay, Home, Smollett, Hugh Miller, Ferguson, Hutton, Robertson, Black the Chemist, Tyndall, Blind Harry, Erskine, Carlyle, Macintosh, Aytoun, James I. of Scotland; the poet-statesman, Jeffreys, James Watt, Dryden, Mackenzie, McClintock, Burke and the galaxy of names with which the Scotch, Scotch-Irish, Northumbrian English and Norman-Irish, have enriched the gallery of Anglo-Saxon greatness. Take this race from American science, art, literature and statesmanship and an enormous gap results. Taine points out the qualities in this race, of which the so-called "genius sports" were the direct demonstrable evolution. Nisbet's error is evident in his treatment, not only of the cases of Sir Walter Scott, but of those of Campbell and Faraday. Campbell and Faraday were offshoots from the Celtic clan Kiernan, one of which was contemporaneously with Faraday, a leader in English science; the English physiologist, Francis Kiernan. In

all three a Celtic strain mingled with the Lowland Scotch strain. Huxley ignores, therefore, this race element and hence has been slovenly neglectful of another principle in evolution, that of reversion. Fortunately for the race this principle, to a certain degree, offsets the influence of degeneracy.

Schopenhauer was a truer example of a "sport." He sprang from a family of imbeciles, but ancestral conservative factors were evident in his case and ancestral defect was shown in his pessimism (the gloom of otherwise healthy neurotics) and his defense of sexual perversion. Nor has Lombroso been more careful. His statistics of height and dwarfness are very defective. Further search among the English, Scotch and Americans would more than treble his list of tall men of genius. Comparison of Thiers, Attila, Van Does and other short men of genius with the inhabitants of the districts whence they came would demonstrate that their *low* stature was a race characteristic and hence of no value as stigmata of degeneracy. The same errors vitiate completely the value of the other factors. Skull fracture cannot be said to have any degenerative relations to genius, as in the cases of Clement VI., Malebranche, Cornelius, Tatber and Mabillard, skull fracture removed imbecility through relieving the brain from premature suture closing pressure, as is done to-day by craniectomy. The cases cited of *alleged* abnormalities in skulls are in many instances defective. The skull of O'Connor has, for example, an ultra-dolichocephaly compared, Lombroso claims, with the mesocephaly of the Irish. Dolichocephaly is far from rare in the district whence O'Connor came and furthermore, as Taylor points out, Ireland, originally inhabited by a dark dolichocephalic race, was invaded by a light brachycephalic race. There were several later invasions of light dolichocephalic races, which settled colonies here and there in the island. In one of such districts O'Connor was born. His dolichocephaly hence is normal and the type skull. In citation of cases to illustrate the unlikeness of children

to parents as degeneration stigmata, Lombroso completely ignores this race factor. He says, for example, that Byron was unlike the English and Virchow was unlike the Germans. Byron, as already shown, had a strong Lowland Scotch and Celtic strain and was, despite all his affectations, essentially a Scotchman. Virchow is a Slavonic Wend not a Teuton. Similar errors are traceable through all his statistics. Race, racial beliefs, age, surroundings—all are ignored to make out cases. Like all the others, he ignored the "occupation neurosis" feature of the genius.

This "occupation neurosis" is especially demonstrable in a case which has already been presented as a dilemma to the morbidity theorist, that of Shakespeare. Nisbet* attacks with, it must be admitted, considerable skill, the position taken by Lamb and Maudsley that a "mad" Shakespeare is inconceivable, and analyzes very thoroughly the ancestral biology of Shakespeare and his own morbidity.

John Shakespeare, father of William, was at one time an opulent glove-maker and had been elected a Stratford alderman. This civic honor was then an evidence of trade aristocracy and, hence, of social importance. Later John Shakespeare became a bankrupt and resigned his aldermanship. Nisbet assumes that this failure proved his ne'er-do-well-ness and, hence, was evidence of a neurosis. Nisbet proceeding on this hypothesis, assumes also that his money was the result of a marriage made with Mary Arden, daughter of a wealthy farmer, who made his will when sick in body and, hence, must have had some lingering disease. The financial factors involved in the bankruptcy of John Shakespeare were of national character and of widespread influence. Debasement of the coin, uncertainty of titles from the uncertainty of the tenure of religious lands, changes in court fashion directly affecting gloves—all suffice to account for bankruptcy of tradesmen who followed what till then had been the

* "Insanity of Genius."

immutable laws of trade. A study of Harrison's contribution* to *Holinshed's Chronicle* would reveal the causes which produced the bankruptcy of John Shakespere and many other honest old tradesmen, in an era when no one could keep a financial ship afloat with paper. Twenty-five years before his death John Shakespere was assisted by his son William.

Mary Arden, although the daughter of an opulent family, entitled to a coat-of-arms, ate with her fingers, worked in the field, washed in a pail once a week and slept in the straw, according to Nisbet, who bases all these hypotheses on the single fact that Robert Arden left only one bed specifically by will. A study of even modern wills would teach Nisbet that testators often conceive an affection for one article of furniture which they mention specifically, while all the rest is dismissed in the phrase personalty. There must have been home training, of the same middle class type that formed the "Ironsides" into statesmen, to enable the country town boy, with his mere grammar school education, and his elderly wife to excel the scholars trained in the Italian renaissance, in their literary fields; to express tersely what they platitudinously amplified, yet at the same time to prove himself so excellent a man of business as to retire with a competency. His choice of a career indicated just the literary tendencies to which boys of the middle class so often aspire. It seems by no means improbable that, as Halliwell-Phillips claims, Mary Arden exerted the same influence over William Shakespere that the daughter of Dr. Rutherford did over her son, Sir Walter Scott, who ascribed much of his powers to her training in history, science and literature.

Nisbet points out that:

The first circumstances calling for attention are the extraordinary mortality of Shakespere's sisters and brothers. The poet was one of a family of eight, of whom only his sister Joan attained old age.

* "Elizabethan England," Camelot Classics.

The official register reads as follows:

Register.	Baptized.	Died.	Age
Joan - - - -	1558	Infancy	—
Margaret - - - -	1562	"	—
William - - - -	1564	1616	52
Gilbert - - - -	1566	1611-2	46
Joan - - - -	1569	1646	77
Anne - - - -	1571	1579	8
Richard - - - -	1573-4	1612-3	39
Edmund - - - -	1580	1607	27

Says Nisbet:

Clearly this is not a healthy stock. The average life of its members, with all the advantage of the second Joan's patriarchal age, being less than thirty-two years. * * * Joan's extremely long life as a member of a short-lived stock is precisely what might be expected from such neuropathic conditions as determined the early death of Keats and his brothers, while enabling the elder sister Fannie to exceed the age of eighty.

It is true that neuropathic families, as has been shown by de Monteyel, Hagen, myself and others, are either very fecund or very sterile. The ova are fecundated so rapidly as to produce by reversion too rapid growth and hence mutual destruction or numerous and more or less imperfect embryos. The same causes that produce atavistic anæsthesia in the insane cause an atavistic moral anæsthesia which produces a few aged people among many short-lived. Tried by these tests, is the Shakespere family neuropathic? In these days of small families, eight children in twenty-five years is not excessive and it was much less so in days when families of twelve were common and larger ones frequent. Fecundity is hence not a feature of the Shakespere family. The life expectancy of that family seems small to-day, yet was large in days when, as Macaulay points out, men died earlier and faster in country lanes than they do now in city slums. Children died much more rapidly then than they do to-day. This fact Miss Yonge has used in one of her romances.* The causes that produced child-mortality would produce child-morbidity and resultant defective con-

* "The Caged Lion."

stitutions. Senility came earlier, then, whence the reference to "Old John of Gaunt," at the age of sixty, an age when statesmen to-day are in their prime. Neither the fecundity degeneration stigma nor the low life expectancy degeneration stigma can hence be charged against the Shakspeare family.

Shakspeare's clothier-brother Gilbert signed a responsibility-bond for \$95.00. His signature thereto, Nisbet claims, indicates that he was a man of a methodical, parsimonious turn, melancholic, destitute of vanity and rather feeble in resolution. Nisbet assumes that he was not in business for himself. The bond, however, indicates that he was an opulent man for the time and the business features drawn by Nisbet would evince the business tact of his brother William, who accumulated a fortune as a theater manager, who showed a fear of plagiarism by writing his actors' parts in lieu of printing and who retired when a competency was assured. William Shakspeare, admittedly a keen judge of men, is found associating Gilbert with him in what Nisbet calls an important legal transaction, a testimony alike to his business skill and his financial status. Nisbet urges that William Shakspeare left his property only to the Harts (Joan's children) because these, alone, survived him, yet he cites evidence to show that Gilbert survived William and became weak-minded. This last assumption is based on the fact that Gilbert, like most of William Shakspeare's contemporaries, had very feeble recollection of his acting. Probably Gilbert's knowledge of William Shakspeare's dislike of the stage, evident in his "Sonnets," had a good deal to do with his repugnance to give information. Edmund became a "player" and died at the age of twenty-seven, of (Nisbet opines) phthisis, which, unlike Nisbet, no one could regard as certainly of hereditary origin, since it was and is one of the "occupation diseases" of actors. Nisbet's assumption that Richard Shakspeare was the "ne'er-do-well" of the family, is based on the fact that but little is known of him save the dates of

his baptism and his death. Nisbet concludes that since the children of Shakespeare's sister Joan alone are mentioned in his will, they, alone, could have survived him. Evidence cited later by Nisbet demonstrates this hypothesis to be untenable and a much more probable explanation is that while the other relatives needed no assistance, the Harts (Joan's descendants) did.

Nisbet claims that paralysis from cerebral causes led to Shakespeare's abandonment of a career peculiarly attractive to him and that this paralysis ultimately caused his death. This hypothesis does not comply with scientific requirements. It is obvious, from Shakespeare's sonnets, that to Shakespeare, a descendant of the middle class Saxon rulers of England, servile dependency resultant on a stage career, was irksome. Green* points out that :

His new profession as an actor stirred in him only the bitterness of self-contempt. He chides with fortune that "did not better" for him "life provide than public means that public manners breed." He writhes at the thought that he "has made" himself "a motley to the view" of the gaping apprentices of the pit of Blackfriars. "Thence comes it," he adds, "that my name receives a brand and my nature is subdued to what it works in."

Such sensitiveness readily led an opulent man to retire when copyright was impossible and fame assured. His lack of care for his MSS. is readily accounted for on the theory that they were sold to the new managers, who published them after his death. Shakespeare's signatures are said by Nisbet to evince "shaking palsy," due to central neuroses, to which was combined a remarkable loss of memory anent the children of his sister Joan, evident in the omission of their given names in the will.

Nisbet rejects, as a cause of Shakespeare's death, the theory of a "surfeit" resulting from a banquet with Drayton and Ben Jonson, on the ground that alcoholism could not cause febrile disturbances, a position decidedly untenable in the face of numerous clinical observations. He rejects the Halliwell Phillips theory of typhoid fever,

* "History of the English People."

on the ground that the fourth week is usually the fatal period, and Shakespeare lived four weeks and a day after his will was signed in a draft form. Typhoid fever could not, Nisbet claims, have such alarming symptoms at such an early stage as to require such haste. There is much absurdity in this statement, because every physician knows of such cases and lack of memory due to syncopic states, with which fever might make its onset, would account for all the phenomena mentioned. Shakespeare's excessive use of the pen, evident in copying actors' parts, could account for this shaky signature, as also might ague (a parasitic, not, as claimed by Nisbet, a degenerative disorder). The neuropathic theory, based on Shakespeare's signature, is hence not tenable. The attempt to twist the "habit" chorea of Miss Hall (Shakespeare's grandchild) into evidence of degeneracy is decidedly unwarrantable straining of the neuropathy hypothesis. Nisbet claims that Anne Hathaway belonged to a prolific family and, hence, could not have unfavorably influenced the Shakespeare race. This position is opposed to that previously taken by him anent the Shakespeare family and need not be discussed, especially as the circumstances of Anne Hathaway's marriage, a grown, rather too mature woman, to a boy of eighteen, indicate a neurosis in her.

That Nisbet has little, if any, knowledge of medicine is sufficiently obvious already. His support of a hypothesis of Kenny is clear evidence that he has little skill in modern psychology. Kenny claims that Shakespeare, from his unparalleled faculty of transporting himself into the state of mind of every species of the human being could not have been normal. Those acquainted with the morbid, extreme egotism of the neuropathic will draw a diametrically opposed conclusion.

In the discussion of heredity aside from the race heredity error, Lombroso and Nisbet make some singular omissions. The satirical, able, philosophic Halifax, had as descendants (as Macaulay points out) Lord Chesterfield,

Henry Cary the dramatist and Edmund Kean the actor. Bunyan sprang from an Italian architect imported to build Melrose Abbey, who settled in its vicinity. The descent of Byron from the ablest of the Stuarts, the poet James I. of Scotland, has already been pointed out. The Darwin family had representatives of ability for the last two centuries. The Argyle family has always had a representative of ability. The American Adams have also had representatives in Statecraft for generations, the Bachs in music, the Titans in art, the Aristotles and Bernouillis in science, the Dumas, Daudets, Lyttons, Coleridges in literature, are but a few of many instances of the heredity of genius.

Moreau de Tours, Lombroso and Nisbet have all ignored one factor on which Tissot* laid great stress nearly a century ago the factor which produces what the Germans have excellently termed "occupation disorders." The influence of this factor has been ably discussed by the elder Disraeli† in his essay on "Maladies of Authors," and there is no excuse for the way in which it has been ignored in discussing the pathology of genius.

Genius, it is true, very frequently leaves no posterity. The influence of the acquired "occupation disease" comes into play. Burns' genius led to dinner invitations, whence alcoholism. His sexual excess was due to the fact that hysterically sentimental females are attracted by the glare of genius like birds by a light-house lantern. From this springs sexual excess and abnormal marriages. The tendency to regard genius as irresponsible, based on the morbidity theory, of course increases these factors of "occupation disease."

Shakespeare's business success in the sixteenth century was fully equaled by that of Stedman, Boker, Rogers, Sir John Lubbock and the other banker scientists who failed to yield to the "occupation disease." The influence of the "occupation disease" is traceable in the careers of

* "*Maladies de les Hommes de Lettres.*"

† "*Miscellanies of Literature.*"

Marlowe, Ford, Massinger, Ben Jonson, Beaumont and Fletcher, who had to appeal to patrons for support in lieu of the general public and acquired thereby, as later did Burns, debauched habits. As literature becomes a recognized calling "occupation diseases" of this origin cease to occur, but others have taken their place. The data of Savage demonstrate an opposite explanation of the association of genius and insanity from that of the morbidity theorists and justify the explanation which I gave five years ago,* that

Genius is not a product of morbid mind. In the exceptional instances where the two co-exist the genius is evidence of a healthy, conservative element, struggling with the incubus of disease.

One-sided geniuses are atavistic returns toward soundness. The nearer the genius to soundness the more productive and the less the want of balance. Genius, like other products of a complicated nervous system, is more easily upset as to its delicate workings than a less advanced in evolution. Shock is exceptional among savages, lunatics, criminals and philistines. As the race rises the tendency to shock increases. The same is true of pain. Herein lies the explanation of the frequency of acquired disorders among geniuses and their morbidity.

Dr. Moyer, in the discussion, said that he leaned to the "sport" theory, as it seemed to him to explain best the facts. There could be no question but that neuroses and teratological deformities were frequent among men of genius. That the explanation given by Dr. Kiernan sufficed to account for this fully he was not prepared to admit. The whole question turned on the definition of terms. Under Dr. Kiernan's definitions his conclusions would have to be admitted, but his definitions were not sufficiently broad to cover all the elements in the case.

Dr. Talbot said that from his studies of deformities of the jaws and teeth he was inclined, with Dr. Moyer, to place the genius in the class of the degenerate, albeit his

* ALIENIST AND NEUROLOGIST, 1887.

researches had not been sufficiently extensive to justify him in more than a suspicion that such was the case.

Dr. J. A. Lydston took issue with Dr. Talbot as to the significance of physical stigmata. Intermarriage and race intermixture had much to do with these even more than neuropathic heredity.

Dr. W. S. Christopher was not prepared to accept either theory as yet. In his judgment too much stress had been laid upon factors like rachitis, which were often acquired.

Dr. C. G. Paoli said that the phrase, "Genius with a neurosis," was more justifiable in many of the cases cited than the statement from them that genius is a neurosis.

Dr. G. Frank Lydston said that he had observed artistic, strategic, literary and other geniuses among the insane. Criminals in the penitentiary often exhibited great artistic ability as well as musical and mechanical skill. An inmate of Ward's Island Emigrant Insane Hospital had drawn up plans for battles that commanded the admiration of West Point graduates. There seemed to be little doubt but that genius often occurred in the degenerate and appeared to be a product of degeneracy.

Dr. Kiernan said in conclusion that all the cases cited could be explained on principles he had already outlined. Training, prevention of interference and the necessity of employment, to prevent *ennui*, had much to do with developing criminal and insane art and mechanical powers. The same phenomena occurred in prisoners of war, who developed such powers during imprisonment. In his judgment to attempt definition other than he had done would place geniuses in two camps, one degenerate and the other sound, which would simply be a restatement of his position in other terms.

SELECTIONS.

NEUROPATHOLOGY.

GUNSHOT WOUND OF THE LEFT CUNEUS.—In a paper read by title at the meeting of the American Neurological Association, September 24, 1891, J. T. Eskridge, M. D., of Denver, Colorado, reported a case of this nature, in which a colored man who was shot in the left occipital region of the head, with a thirty-eight caliber ball, which entered the brain two and a half inches anterior to the occipital protuberance and half an inch to the left of the median line. The ball was extracted in a few hours after the infliction of the wound. It was found about half an inch below the cortical substance of the brain. The man was depressed by the shock, but did well for about two or three days subsequent to the operation. I examined him on the second day after the ball was extracted. Found no rigidity, paresis or paralysis, of any of the muscles. The pupils were slightly dilated but responded well to light and accommodation. There was no difficulty in moving the eyes in all directions. The plantar and patellar reflexes were feeble, but more marked on the left than on the right side. The cremasteric and abdominal reflexes were abolished on the right side and were feeble on the left. Tactile, muscular, temperature, and pressure senses were normal. Taste, hearing, and smell were well preserved and equal on the two sides. The fields of vision were well preserved on the left side of each eye and totally blind up to the median line on the right. The fundus of each eye appeared nearly normal, excepting a slight hyperæmia of the papilla.

His mind was dull and acted slowly; but on arousing him from his apathetic condition, he answered questions and appreciated what was said to him. Concentrated attention could be maintained by him only for a few seconds, from a feeling of exhaustion. Temperature 100°, pulse 90, respiration 28.

The day after the examination he was more stupid and was inclined to sleep constantly, and on the following day he was totally unconscious, with a temperature of 102°. He died on the fifth day.

The autopsy was made eighteen hours after death. On

removing the surgeon's dressings not a drop of pus was found. The membranes of the brain, both the dura and the pia, were engorged with blood, but no pus was found. There was a hole in the brain-substance two inches in diameter. Posteriorly, it extended to within one and a half inches of the tip of the occipital lobe. On the median surface of the hemisphere there was a thin layer of brain-substance, about one-eighth of an inch in thickness posteriorly and from one-quarter to three-eighths anteriorly. This was not softened or broken down anteriorly, but at its posterior portion lacked normal consistence. The destroyed brain-substance reached anteriorly a point one inch posterior to the upper end of the fissure of Rolando.

Laterally, over the convex surface of the brain, the wound reached to a point one and a half inches distant from the angular gyrus, but the white matter of the brain was softened to a point almost beneath the gyrus angularis. The cuneus was completely destroyed. The wound did not extend down to the tentorium cerebelli. The great ganglia and the base of the brain presented a normal appearance.

THE NERVOUS SYSTEM IN ADDISON'S DISEASE.—Recent writers have done much toward the elucidation of the cause of the complex of symptoms found in this disease. According to Fliener, who writes in the *Medicinischer Anzeiger*, the opinion in Germany is that the abdominal sympathetic, generally a branch which supplies the suprarenal capsule, is at fault. The work of Tizzoni has shown pigmentary infiltration and considerable alteration to exist both in the central nervous system and in the sympathetic system in Addison's disease. This author reported autopsies held in two cases of accidental death occurring in persons with distinct indications of this disease. In one, death had followed an operation for fungous degeneration of the testicle. In this case there was tuberculosis of one suprarenal capsule, with chronic inflammation and thickening of the other. The semilunar ganglion was extremely enlarged. In the second case the left suprarenal capsule was in a state of metastatic angiosarcoma, as were also bundles of the splanchnic nerves in this situation. Careful examination showed the whole sympathetic system and the accompanying blood-vessels to be in an inflamed and degenerated condition. This degen-

eration was especially to be found in the medullary fibers and in the ganglion cells. These pathological changes were also found to have extended to the intervertebral spinal ganglia, the peripheral nerves, the muscular fiber cells and the mixed nerves of the skin. The posterior roots and the intercostal nerves were also involved in the degenerative process. The anterior roots and the spinal cord were found in a perfectly normal condition. This observer regards the process in the sympathetic as one of metastasis, as the histories of his two cases revealed previous ganglionic tumors in the neck, of which nothing remained but the scars.—*New York Medical Journal*.

BACILLIAN INFECTION.—The invasion of this theory into the domain of neurology has extended beyond that of tetanus, etc., into the region of other nervous affections. The *Supplement to the British Medical Journal* refers to a short account of the epidemic reported by Medin, of Stockholm, before the Tenth International Congress, and appearing in the "Transactions," is given in the *Centralblatt f. klin. Medicin*, Sept. 5th, 1891. Within some five months, forty-four cases were observed occurring in previously healthy children and without apparent cause. In the febrile stage there was besides the fever somnolence, dyspepsia, rarely vomiting and diarrhea, more often constipation. Paralytic symptoms showed themselves in this stage. The fever and somnolence lasted in some cases several days after the onset of the paralysis, but further paralysis did not take place after the fever had disappeared. Facial monoplegia was noted in three cases, and facial paralysis with pyomyelitis and polyneuritis in another five. Abducens paralysis was present in five cases, twice together with ordinary poliomyelitis, once at the same time as polyneuritis, once in a case of polio-encephalitis and once in a fatal case. All the nuclei in the pons and medulla corresponding morphologically and physiologically with the cells in the anterior horns of the spinal cord were at times affected.

In the discussion which followed, Heubner looked upon it as an infective disease. Professor Henoch spoke concerning the question of identity in the cases and said that the presence of so many cerebral symptoms was very striking.

ATHEROMA CAUSED BY VEGETABLE DIET.—Dr. Alanus, having renounced vegetarianism, because he made the

disagreeable discovery that his arteries were beginning to show signs of atheromatous degeneration, particularly in the temporal and radial arteries, though he was under forty, and searching for the cause of this remarkable phenomenon, he came across a work by Dr. E. Monin, of Paris, containing a quotation from an article by the late Dr. Gubler, on the influence of a vegetable diet on the chalky degeneration of the arteries, in which it was stated that vegetable food, richer in mineral salts than that of animal origin, introduces more mineral salts into the blood. Raymond, it is stated, has observed numerous cases of atheroma in a monastery of vegetarian friars; amongst others that of the prior, a man scarcely thirty-two years old, whose arteries were already considerably indurated. The naval surgeon, Treille, has seen numerous cases of atheromatous degeneration in Bombay and Calcutta, where many people live exclusively on rice. A vegetable diet, therefore, ruins the blood-vessels, and makes prematurely old, if it is true that man is as old as his arteries. It must produce at the same time tartar, the senile arch of the cornea, and phosphaturia.

TUMOR OF THE CEREBELLUM, FRONTAL HEADACHE, UNILATERAL STAGGERING, CONVULSION, SUDDEN DEATH.—Dr. Walker Schell reports a case of tumor of the cerebellum (*Indiana Medical Journal*, June, 1891), occurring in a boy seven years old. The patient's father died of "misery in the head," supposed to have been of syphilitic origin, after a history of suffering from headache during life. The previous health of the patient had been good and he had been well developed and fairly intelligent. A year prior to his death, he began to complain of headache in the frontal region. Three months before his death, he began to totter in walking and the headache became continuous and severe, and had hyperæsthesia of the scalp. When suffering acutely from headache his head was most always turned to the right. His eyes were strabismic. On the day of his death, in endeavoring to walk, he fell several times, always to the left, and died in a convulsion. The autopsy revealed a sarcomatous tumor one inch and a half in diameter, in the right lobe of cerebellum.

POST-APOPLECTIC HEMIANOPSIA.—Leyden (*Wiener med. Presse*, July 12, 1891) reported to the Society for Internal

Medicine, at Berlin, the case of a woman sixty-nine years old, with left hemiplegia, left ptosis, and conjugates deviation of the eyes and head to the right, who for three days presented the hemianoptic pupillary reaction, or immobility. The pupil contracted on illumination of the intact half of the retina, but not on illumination of the anæsthetic half. Wernicke has demonstrated that this peculiarity depends upon a lesion interrupting the pupillary reflex arc in front of the corpora quadrigemina. When the lesion and consequent reflex interruption are behind the corpora, the pupils react. In the case in question the autopsy confirmed the accuracy of the observation—a lesion was found in the quadrigeminal region.

A CASE OF ACROMEGALY.—Dr. Geo. B. Somers (October number of the *Occidental Medical Times*) reports a case of this rare disease, first described by Marie (1886), the second case reported from the United States. Dr. Somers' case presented "an enormous enlargement of all the short bones, the cancellous portions of the long bones and of certain of the soft parts." The patient was an Italian, fifty-one years old. No positive history of syphilis. The patient died, but the autopsy throws no light on the etiology of this disease. The other American case is reported by Dr. Ross.—*International Clinic*, Vol. I., page 1.

CLINICAL PSYCHIATRY.

NICOTINIC PSYCHOSIS.—The author has investigated nicotinic intoxication at Upsala among the marines and employes in factories who consume a large quantity of tobacco by chewing. It evinces itself by a mental disease which has its own peculiar symptoms—feebleness, inactivity, hallucination, delirium, proclivity to suicide—and a regular progress. The author distinguishes in this toxic mania a prodromic stage and three periods of its prodromata. The patient becomes changed in character, experiences an indefinable malaise; he is restless, melancholy, anxious, sleeps but little, has a distaste for his usual occupation and complains of the injustice of his condition; he has distressing palpitation. This stage continues from six weeks to three months, when the disease is confirmed.

Primary period: The beginning of this affection is observed especially by hallucinations of sight and hearing. The subject has visions, he hears voices, he perceives his being overwhelmed by an extraneous personality that annihilates his will. He is fatigued, exhausted, desirous of solitude and repose; he is gloomy, melancholic and has thoughts of suicide. He is, however, quiet and obedient, says little, responds in a logical manner to questions that are put to him. He complains of a pain at his heart; his sleep is disturbed by voices which give him no repose. The patient does not yet lose flesh, but he has already begun to have a perverted taste and a capricious appetite. This first period continues from six to eight months.

Secondary period: The melancholy disappears, the patient has merry ideas. He relates with a smiling countenance that he has seen heaven and has received visits of angels; sometimes, also, that he has seen hell and evil spirits. He sings and he talks to himself in a low tone incessantly. He finds himself very strong and goes to his work with a certain activity. The hallucinations of sight and hearing are aggravated by the approach and the periodical necessity for the use of the straight-jacket by force. These paroxysms continue from two to four weeks. During the intervals of paroxysms the patient is discontented and inattentive; he understands with difficulty and speaks with hesitation. This period may continue for a long time. It may yet result in a cure.

Third period: The paroxysms become shortened and end in their disappearance. But some hallucinations persist and the patient falls progressively into a state of psychical depression which contrasts strongly with the relative preservation of physical vigor. During this period he may even be employed upon some work. As to a cure, this must entirely be abandoned. The prognosis reserved during the former stage in this become decidedly unfavorable.

The treatment with confirmed chewers is to cut off by degrees the use of tobacco, to prescribe exercise in the open air, strengthening diet and alkaline mineral waters.

The act of smoking or of snuffing incurs a less risk of intoxication than its use by chewing. This is especially dangerous when it ensues not only from using the common twist but from the pulverized tobacco.—Kjellberg in *Archives de Neurologie*.—*Weekly Medical Review*.

HYPNOTISM—ESKRIDGE'S CONCLUSIONS.—1. That hypnotism is real, subjective and disassociated from any mysterious influence formerly supposed to be exerted by the hypnotist over the subject.

2. That its therapeutic value depends upon the mental impressions made during hypnosis, the latter rendering one more impressionable at the time.

3. That much that is accomplished by the aid of hypnotism may be obtained by making repeated impressions without hypnosis.

4. That hypnotism may be attended by certain dangers to the hypnotist, the subject and the community, but that, so far as the reputation of the hypnotist or the health of the subject is concerned, proper precautions will enable us to prevent any untoward effects, leaving numerous dangers of a medico-legal nature to be guarded against when hypnotism is practiced by unprincipled persons.

5. That whether the therapeutic value of hypnotism is greater than the dangers that cannot be prevented from its practice is not determined, and should receive careful attention at the hands of competent investigators, whose minds are not likely to be unduly biased by skepticism or enthusiasm.

6. That no one should be allowed to hypnotize without a license from the State to employ hypnotism.

7. That the practice of hypnotism should be limited to physicians and other scientific investigators.

8. That no one of questionable reputation should be given a license to hypnotize and any one so licensed should forfeit it on being convicted of any crime.

NEUROTHERAPY.

CHLORMETHYL IN THE TREATMENT OF NEURALGIAS.—The *Deutsche medicinische Wochenschrift* contains an article by Steiner on the superior benefits to be derived from the use of this remedy in the treatment of neuralgic affections. The chlormethyl, CH_3Cl , or monochlormethane, when subjected to the pressure of four atmospheres, becomes fluid; it is then forced into copper siphons, from which it is allowed, by an apparatus fixed in the top of the bottle, to stream against the painful part to be treated. The effect on the tissues is similar to that produced by the application of ice. At no time has the author observed

any ill effect from the remedy other than a redness of the skin. The too frequent application might result in an excoriation of the surface. Chlormethyl lowers not alone the temperature of the part but also the excitability of the sensory nerves and in this manner diminishes and relieves pain. Steiner prefers this remedy in the neuralgias to quinine, antipyrine, phenacitine and other drugs of this class. The application is made daily, the pain is relieved at once, and after the first week of treatment it does not return. Massage and electricity may be used in conjunction with the chlormethyl, as it is probable that they may assist in its action. The author has used the remedy with success in severe cases of ischiadic neuralgia and the traumatic neuroses, and strongly advocates its more general trial.—*New York Medical Journal*.

FRONTAL HEADACHE AND IODIDE OF POTASH.—A heavy, dull headache, situated over the brow, and accompanied by languor, chilliness and a feeling of general discomfort, with a distaste for food, which sometimes approaches to nausea, can generally be completely removed by a two-grain dose of the potassic salt dissolved in half a wine glass of water, and this quietly sipped, the whole quantity being taken in about ten minutes. In many cases the effect of these small doses has been simply wonderful. A person who, a quarter of an hour before, was feeling most miserable and refused all food, wishing only for quietness, would now take a good meal and resume his wonted cheerfulness. The rapidity with which the iodide acts in these cases constitutes its great advantage.—Abstracted from *Mass. Medical Journal*.

DIETETIC TREATMENT OF EPILEPSY.—Whether the theory of the explosion of nitrogen in the brain-substance as the cause of the epileptic seizure be true or not, certain it is, according to John Ferguson, that the malady is aggravated in patients subjected to a nitrogenous diet. This fact seems to have been confirmed by clinical experience and actual experimentation. Ferguson, therefore, acting on the strength of such a fact, has subjected his epileptics to a strict vegetable diet and has even dispensed with the use of drugs. This method has given, in his hands, excellent results, especially in well-marked cases of status epilepticus. In these cases a non-nitrogenous vegetable diet alone has rendered better service than bromides, with restriction in diet.—*Therap. Gazette*.

NEUROPHYSIOLOGY.

FUNCTION OF THE TUBER CINEREUM.—Dr. Ott (*Journal of Nervous and Mental Diseases*, July, 1891), has two short papers on the function of the tuber cinereum. He believes that the thermotaxic and what is termed the “thermopolypnœic” center are one and the same, and are situated at the anterior end of the third ventricle. A rabbit was heated to produce polypnœa; the skull was opened and the tuber cinereum was damaged. It was always found that polypnœa ceased when this was done, but not by any experiment in which it was uninjured. Ott also concluded that it had thermotaxic functions. He found that puncture of the anterior end of the optic thalami must break the tuber cinereum to cause a rise of temperature. He considers it established that the thermogenetic centers are the caudate nucleus, and according to Hale White, the gray matter of the septum lucidum and the gray matter in front of and beneath the caudate nucleus. Ott believes that there are thermo-inhibitory centers about the concrete and Sylvian fissures and polypnœic centers in the tuber cinereum.—*Supplement to the British Medical Journal*.

PYREXIA AND ANTIPYREXIA, NERVOUS AND ARTIFICIAL.—Richter, in the *Brit. Med. Journal Supp.* (Inaug. Diss. Breslau, 1891), gives an account of some experiments made by him on pyrexia and antipyrexia. He first of all discusses the mechanisms by which the temperature can be lowered and concludes, as a result of calorimetrical experiments upon animals in which fever had been artificially induced by the injection of infusion of hay, that fever consists in a shifting of the heat-regulation mechanism. He therefore adopts Filehne's theory of fever. The difference between a nerve temperature and fever is next discussed and the author does not believe that there is in the brain any heat center, damage of which can cause fever. He regards the pyrexia which may be brought about by damage to the corpus striatum, as quite distinct from fever, being only a temporary disturbance of the heat-regulating mechanism

ACTION OF THE CERVICAL SYMPATHETIC NERVE ON ACCOMMODATION.—MM. Morat and Doyou (*Arch. de Physiol.*, III., 1891, page 507), after experiments on the cervical sympathetic nerve in dogs, rabbits and cats, conclude that this

nerve exercises a regulative influence over the accommodation of the eye. Animals narcotized by morphine or nicotine show stimulation of this nerve, followed by a relaxation of the previous condition of positive accommodation. The reflex picture on the anterior surface of the lens becomes distinctly larger. Section of the sympathetic nerve caused the opposite effect. They therefore conclude that the cervical sympathetic has the power of inhibiting the activity of the excited or contracted ciliary muscle and regard it as the inhibitory nerve of accommodation.

CLINICAL NEUROLOGY.

SOME WORDS ON THE "NEW REFLEX," DESCRIBED BY DRs. ONANOFF AND C. H. HUGHES, BY DR. BROWN-SÉQUARD.—We have received from the very distinguished physician of St. Louis, Mo., U. S. A., Dr. C. H. Hughes, director of an important review, *THE ALIENIST AND NEUROLOGIST*, a work which appeared in the last June number of this collection and whose subject, "A New Reflex," the absence of which invests with diagnostic value cases with certain affections of the spinal marrow. He alludes to a contraction of the bulbo-cavernous under the influence of an irritation of the dorsal surface of the penis. The author cites a number of cases where he has seen missing the reflex which he believes to have discovered. Before this time, on May 3d, 1890, Dr. Onanoff had communicated to "The Society of Biology" a work giving the results obtained by him on a large number of patients and individuals in good health, establishing the existence of the normal condition of a reflex ischio and bulbo-cavernous under the influence of an irritation on the dorsal surface of the gland. It is evident from these two publications that a reflex worthy of being known exists in the genital organs of males. Dr. Hughes and Dr. Onanoff are in accord in showing circumstances where they state the absence or exaggeration of the reflex. We will limit ourselves with adding that the work of Dr. Onanoff is entitled: "*Of the Bulbo-Cavernous Reflex*," and that of Dr. Hughes the title: "*Note on the Virile Reflex*."—Translated from the *Archives of Physiology*.

LA GRIPPE AS A CAUSE OF RETRO-BULBAR NEURITIS.—Dr. John E. Weeks discusses this subject quite thor-

oughly (*New York Medical Journal*, August 8th, 1891), and reports several cases which have come under his observation. He arrives at the following conclusions: (1) Neuritis of the optic nerve due to *la grippe* is of relatively new occurrence. It may affect one or both eyes, and may produce partial transient impairment of vision, partial permanent impairment of vision or absolute permanent blindness. (2) Failure of vision begins from three to fourteen days after the commencement of the attack of *la grippe* and proceeds quite rapidly. (3) The form of scotoma produced is probably dependent on the position of the neuritis in the course of the nerve from the globe to the chiasm. If immediately behind the globe, the muscular fibers are affected; if near the optic foramen, the peripheral fibers suffer first. (4) Treatment has little effect to promote cure. If recovery follows, it takes place spontaneously and accompanies improvement in the patient's general health. (5) The neuritis of motor nerve branches resembles those occurring after diphtheria and are mostly of transient character. They may occur in any or all of the nerve trunks pertaining to the eye.

PSYCHIATRY.

RELATIONS OF BODILY DISEASE AND SENILITY TO INSANITY.—Dr. P. Wise, of the St. Lawrence Asylum, at Ogdensburg, discussed this subject before the New York State Medical Association in an exceedingly interesting way. He held that twelve to fourteen per cent. of all insanity is due to bodily disease. Pregnancy and the puerperal state contribute nine or ten per cent. of the cases in females. There is now less post-febrile insanity than formerly because of the abandonment of depletive treatment. When a patient possesses the insane diathesis extraordinary care should be taken of him during convalescence to prevent the development of an incurable form of insanity.

Dr. Wise holds that there is no uterine psychology; in a somewhat extensive experience with gynecologists in insane hospitals he had never seen a recovery from insanity even remotely due to gynecological treatment. He believed that in a few cases such treatment had actually interfered with recovery. The psychological

epochs of life—pubescence, adolescence and the climacteric present fruitful periods for the unbalancing of unstable brains. From a psychological stand-point there is a normal pathology of old age. Dr. Wise deprecated the growing tendency to certify as insane cases presenting this so-called normal pathology.—*Medical News*, Nov. 14, 1891. T. D.

RELATIONS OF TRAUMATISM AND SHOCK TO INSANITY.—Dr. H. M. Hurd, of Baltimore, said that shock sometimes produces an instability, rendering the patient emotional and lacking in will-power. Injuries to head in childhood often lessen the brain-resistance and render the subjects liable to the development of mental disease at the psychological epochs of life, particularly at puberty.—*Medical News*, Nov. 14, 1891.

NEUROSURGERY.

TREATMENT OF NEURALGIA SPERMATICA AFTER FRUITLESS CASTRATION.—Bunda (in the *Journal of Cutaneous and Genito-Urinary Diseases*) writes of a patient affected with a severe neuralgia of the spermatic cord, on whom the operation of castration had been employed in vain. After a slight mitigation of the pain from the use of electricity, a very favorable result was obtained from an apparatus similar to a truss, so constructed as to exercise permanent pressure over the vas deferens and the inguinal region.

FORENSIC PSYCHIATRY.

HYPNOTISM IN BELGIUM.—From a recent Brussels journal we note that the Belgian Government lately submitted to its Legislative Assembly a stringent project of law forbidding all public exhibitions of hypnotism and limiting hypnotic experimentation to physicians, who may exercise the privilege only in hospitals or in private and solely in the presence of their professional associates or of medical students. Several deputies criticised the proposed law adversely, declaring it to be a suppression of scientific research. The Minister of Justice replied that the reform had the sanction and recommendation of the Belgium Academy of Medicine. He characterized hyp-

notism as a mystery rather than a science and said there are respectable medical authorities who would withhold from it all scientific basis whatever. He affirmed that criminals use hypnotism to promote and cloak their depravity.

After a long debate the proposed law was ratified, whereby offenders become liable to imprisonment, from fifteen days to one year and to fines varying from twenty-six francs to one thousand.

W. W.

EDITORIAL. .

[The Editor is responsible for all Unsigned Editorial Matter.]

Periodical Subscription and News Agents will please take notice that we do not allow commissions on our own regular subscribers, but only on new ones obtained by themselves.

We would regard it as a favor if all regular subscribers would deal directly with this journal.

Some Questions of the Code,—Patents and Advertising.—There are some subjects of the Code of Ethics which seem not to have been finally and irrevocably settled, though all good physicians conform to the injunctions of this ethical law while it remains. These subjects are those provisions which relate to the procuring of patents by physicians and surgeons and advertising. The secret nostrum of doubtful value and of positive harm, the general sentiment of the profession theoretically condemns. Yet proprietary medicines which are in effect perpetual patents to the inventor by virtue of the copyrights or trade-marks under which they are exclusively sold, are approved and recommended to advertise both the proprietary medicine and the doctor. A patent has a limit and its composition after a time becomes public property and manufacture free to all. A proprietary medicine expires at no time before the manufacturing firm expires and there comes no time when it may become the free property of the profession or public. We are prescribing antipyrine, listerine, bromidia, sulphonal, salol and all the "ines" with lavish hand and using all sorts of instruments patented by others than physicians. We ought to be consistent and either countenance no patents, as our fathers did, or remodel our code and provide conditions and restrictions under which letters patent may be taken out by physicians on medicines and appliances. A fair provision requiring the surrendering, after a time, of all proprietary processes and furnishing such medicines to the profession at unexorbitant rates, would be better than the iron-clad law we now profess to be governed by, but do not implicitly obey.

And in regard to advertising, it would be well to consider if a provision defining to what extent a medical man might advertise himself without violating professional propriety, might be incorporated in the code, so as to avoid the miserable shifts to which so many men resort, and the brain-breaking amount of unpaid charity work done by the profession, in order to get themselves properly placed before the public. It is undoubtedly "derogatory to professional dignity," as the code says, "to resort to public cards or private hand-bills, calling attention to special skill in certain diseases," but a physician is not obliged, under the code, to hide his light under a bushel—the public has a right to know who and where its physicians are, and the physician has a right to make the fact of his calling publicly known. The code intends to provide for this. It only needs to be made more explicit as to what shall constitute reputable and disreputable professional advertisement. The code provides that it is the duty of physicians, as good citizens, to enlighten the public in regard to matters appertaining to their profession. This is a provision for indirect advertising. It should provide plainly for direct advertising within the limit of professional propriety. It should say that any physician may place his name, number, and calling, in an unostentatious way before the public, on his sign, or card, or in the newspapers, being ever mindful of the fact that he cannot, like a merchant, unduly puff the quality of his wares. His skill must be commended by others. As among gentlemen, "self-praise is half scandal," so in our profession, the physician who would seek to "boom" himself in a public advertisement, is not the peer of his brethren. It requires no code to degrade a physician who so degrades himself. Superior skill or qualification may be commended by others. It may not be, with modesty or propriety, self-proclaimed any more in medicine than in other callings, and the public must sooner or later see the propriety of this. True professional dignity forbids shameless self laudation and our code plainly discountenances it because it aims to inculcate the modesty of true gentility and the courtesies, proprieties and amenities of proper social life in the relation of physician to the public, and in the main, the golden rule of human conduct, making some allowance for the still unregenerate human nature yet abiding in mankind, even in the hearts of medical men. We are

not all saints, and make no claim to perfection above a modest average, as we are not all *savants* in science, but we do not permit ourselves to fall below the average of humanity in moral abnegation—not even below our respected brethren, the clergy, nor below the average in scientific acquisition. Medicine, in its progress and in its relations to the world, is the peer of any and all of the professions, and this is not proclaiming our perfection. We realize our imperfections, our need of more light, the necessity of further progress, and feel our aspirations after development. We aspire after growth, as the world grows in science and morals. By sight of science, as Goethe says, “we see the stars about us in day-time,” so we discern the light that betokens advance in the light that has shone upon the darkness of the past.

The American Neurological Association.—The Seventeenth Annual Meeting of the American Neurological Association, held in connection with the Congress of American Physicians and Surgeons at Washington, D. C., on September 22d, 23d and 24th, 1891, was an unusually successful meeting. Many papers of more than ordinary merit and scientific interest were read by eminent American neurologists. The meeting was presided over by Dr. Wharton Sinkler, of Philadelphia; Dr. C. L. Dana, of New York and Dr. S. G. Webber, of Boston, being Vice-Presidents; Dr. G. M. Hammond, of New York, Secretary and Treasurer and Dr. G. L. Walton, of Boston and Dr. L. C. Gray, of New York, Councillors. Dr. C. L. Dana is the next President and the next place of meeting is New York.

The following papers were read: “A Case of Acute Spinal Paralysis; Death on the twelfth day, with the account of the Microscopic Examination made by Dr. W. C. Burr,” by Dr. Wharton Sinkler, of Philadelphia. “Polio-Myelitis Acuta Adultorum,” by Dr. Wm. C. Krauss, of Buffalo. “A Contribution to the Therapeutics of Polio-Myelitis,” by Dr. V. P. Gibney, of New York. “Ataxia Following Trauma,” by Dr. F. X. Dercum, of Philadelphia. “The Diagnosis of Certain Forms of Inter-cranial Syphilis,” by Dr. Landon Carter Gray, of New York. “Tubercular Infection of the Central Nervous System,” by Dr. B. Sachs, of New York. “Astasia-abasia,” by Dr. Philip Coombs Knapp, of Boston. “The Pathology of Hysterical Anæsthesia, Illustrated by two

Cases Showing some Unusual Phenomena," by Dr. Morton Prince, of Boston. "1. A Case of Thomsen's Disease. 2. Removal of a Neuroma, Followed by Disappearance of Local Anæsthesia of Fourteen Years Standing," by Dr. G. L. Walton, of Boston. "A Case of Tumor of the Cerebellum, in which Trephining was done for the Relief of Pressure," by Dr. Philip Coombs Knapp and Dr. E. H. Bradford, of Boston. "A Case of Trephining and Excision of the Cortex for Jacksonian Epilepsy," by Drs. W. W. Keen and Charles K. Mills, of Philadelphia. "Seven Recent Cases of Brain Surgery," by Dr. Wm. A. Hammond, of Washington. "A Case of Tumor of the Mesencephalon, with Exhibition of the Brain," by Dr. James Hendrie Lloyd, of Philadelphia. Drs. John B. Deaver and James Hendrie Lloyd, of Philadelphia, made a Preliminary Report of an operation for Focal Epileptic Symptoms, caused, probably, by a Brain Tumor. "Porencephalus, in which trephining was done for the Relief of Local Symptoms. Death from Scarlet Fever. Exhibition of the Specimen," by Drs. De Forrest Willard and Jas. Hendrie Lloyd, of Philadelphia. "Subcortical Hemorrhagic Cyst Beneath the Arm and Leg Areas, with Remarks on the Diagnosis of Lesions of the Motor Sub-cortex," by Dr. C. K. Mills, of Philadelphia. "The Virile Reflex in Relation to Clinical and Forensic Neurology," by Dr. C. H. Hughes (by title), of St. Louis. "The Electrophysiology of Reflexes, with the Description of a Hitherto Unknown Localized Physiological Reflex Phenomenon," by Dr. G. W. Jacoby, of New York. "Lead Poisoning with Special Reference to the Spinal Cord and to Peripheral Nerve Lesions," by Dr. E. D. Fisher, of New York. "Triple Personality," by Dr. Irving C. Rosse, of Washington. "Double Athetosis," by Dr. Wm. Osler, of Baltimore. "Facial Hemi-hypertrophy," by Dr. Wm. A. Hammond, of Washington. "Lithæmia Considered in its Relation to Nervous Phenomena," by Dr. C. Eugene Riggs, of St. Paul. "Friedreich's Disease, its Relation to Conducting Paths in the Cord," by Dr. David Inglis, of Detroit. "A Case of Unilateral Paralysis of the Lips, Tongue and Pharynx, with the Presentation of the Specimens," by Dr. G. M. Hammond, of New York.

The annual dinner was elegantly served at the Hotel Arno. The wisdom and wit which flowed at this evening's "feast of reason and flow of soul," was a neuropsychic treat for the most sinister-souled neurologist or

the most critical of psychological *savants*—it would have sweetened the soul of the sourest of psychologists and entertained

“A pensive (alienist)
Singing to himself
Upon a hill in heaven.”

(Where alienists are taken to receive the reward they never obtain in this unappreciative world—the blessed abode of the poor in purse and spirit.)

The programme does not give the banquet speeches, nor can we, but Græme Hammond's description of Carter Gray's cure for stammering was a master-piece of clinical word-painting that would have done credit to a parietic. There was a delirium of grandiose ideation in the speech which set the table in a roar and caused the distinguished neurologist who had affected the wonderful cure to apologetically regret that the speaker had not continued tongue-tied for the rest of his life.

One thing was made quite apparent at this banquet and that was that the Eastern neurologists have gotten over their very reprehensible habit of not speaking “as they pass by,” at any rate, when they are where the public cannot observe them assembled around their own family festal board.

There seemed to be on this occasion just enough glossoplegia to permit of lingual looseness without undue psychical inhibitory restraint, and “all went merry as a marriage bell,” as our neurological *confrères* of the East spent the evening together in unity of spirit and community of soul.

Their tongues were loose but none were tight. This is a good omen. The millennium is approaching.

Shall Physicians Dispense Their Own Medicines?—The journals of the country are just now discussing this question and it is a timely discussion. Those parasites of the profession of medicine, the retail druggist, the manufacturing pharmacist, the proprietary and the patent medicine man, have made the question pertinent and its solution practicable. The legitimate manufacturing pharmacist has made the self-dispensing of the physicians' prescription a facile possibility. The tablets of our favorite manufacturers have made office-dispensing a possible art to the physician, while proprietary robbing, in some instances, of our best prescriptions,

and trade-marking them to the exclusive profit of the proprietor, which is worse than patenting them, has made the consideration of this question an urgent one. Our highest interests are threatened. We must decide to what extent we shall continue to foster these parasitical caterers to our therapeutical necessities and draw the line of our patronage.

The retail druggist is no longer a dispensing chemist and preparer of prescriptions, but living by our favors, he recommends patent and proprietary medicines to our detriment, refills our prescriptions without our knowledge or consent often, and habitually plays the rôle of mimic doctor, with a little shallow knowledge possessed by him of clinical therapy, which is often as dangerous a thing to the patient as it is detrimental to our own interests. Besides, the corner druggist has blossomed into the dispenser of favors and patronage to the neighboring physician, praising loudly and damning with faint praise, according to his trade interests. He has become in many localities the arbiter of the young physician's destiny, the medical autocrat of the corner. By his leave the new young doctor of his vicinage flourishes and through his machinations even established physicians suffer in business and reputation. All druggists are not the foes of professional interests, but too many of them are either covertly or openly so.

Are we wise to thus give them the rein and the upper hand? Should we not rather regain our ascendancy over them and become again the dispensers of favors and of our own medicines?

This may be done by physicians of small practice putting up their own medicines and by those of larger practice having their own private dispensing assistant. When we know how to do it aright it is wiser to govern than to be governed.

The renewable and transferable prescription and the autocratic corner druggist, arbiter of the doctors' practice, eulogizing the competency on purely business policy, of the physician who makes him the best return in prescriptions and other forms, robs us in great measure of that independence which should belong to us and which every high-minded, scientific physician should covet. Service to the druggist should not be, in any degree, a condition of success in practice. The druggist should serve us and he will be more willing to serve us than now, when we learn to be largely independent of him.

A Governmental Department of Public Health.—The American Medical Association is now memorializing Congress to create a Department of Public Health, through which may be promulgated sanitary information, and by means of which diseases which damage, deteriorate or destroy the human family, may be detected, eradicated or averted.

The importance of such a measure cannot be overestimated. There is more need for it than there ever was for the Department of Agriculture, and the necessity and value of this department has been practically proven after adequate trial. The President of the United States, in his late message, has given executive approbation of the wisdom of the government's having founded it.

The value and need of such a department is apparent enough to physicians, psychologists and sanitarians. Public and personal sanitation is as important to the people as the saving or increase of agricultural products, as important as the promotion of wealth or justice or efficiency in the army. Health underlies happiness, wealth, valor, morals. The nations that have gone into decadence had no Department of Public Health. They had Departments of War and Justice, and the public baths of Rome were founded for comfort and luxury. The nation needs a Health Bureau as much as the army does a Commissary or Medical Department.

If we are to grow vigorous as we advance toward maturity as a nation and not prematurely decay, we must study the preservation of the public health. Psychical and physical sanitation must become as much a matter of public interest and governmental concern as the army, the navy or the law. It is politic to look well to the public health and good politics to secure to the people a National Health Officer in the Cabinet.

The right to governmental aid in the securing and maintaining of the people's health, is as plain as those other rights proclaimed in nearly every State bill of rights and in the primal declaration which gave the nation birth; the right to life, liberty and the pursuit of happiness. Without health, mental and physical, among the people, these other rights are comparatively valueless and impracticable. That kind of knowledge is the greatest power which appreciates and secures the highest possible health to a people.

Students of physiological science (which embraces psychology, psychiatry and neurology), understand this, but the power and glory of a nation is promoted and maintained through the *people* knowing it and the government aiding them, to profit by the knowledge.

A word to wise public servants ought to be sufficient on this subject, but many words often repeated will probably be necessary. The school-rooms of the land and the governmental Departments are in need of sanitary reform far more than the tariff, and sanitary repairs need to be adjusted to the vital tax levied upon the people by the struggle, the vices and the dissipations of life.

When generations fail physically or mentally before their normal or natural time of decadence, the nation they belong to must decline.

This is inexorable law. Let the statesmen of our land take timely warning. The pillars of the republic are its people. The stronger they are, the longer shall it endure. High-minded men constitute a State; strong men sustain it. *Mens sana in corpore sano*. The foundation of mental greatness is a vigorous physical organism—a nervous system endowed with power. We hope the wise and timely petition of the American Medical Association, for this important advance step, in consonance with the demands of our civilization and national welfare, will be favorably acted upon by our representatives in Congress. The care of the national health should not be longer neglected. It is more than "high raised battlements or moated walls," for the perpetuity of our name and place among the nations of the earth.

The "Medical Record" and the Medical Journals of the West.—Our sunrise cotemporary, the *New York Medical Record*, records, in a recent issue (Nov. 7th) its disapproval and its fears of the increase in the number of Western medical journals. "The medical journalism of the Great Lakes and the Mississippi Valley," it says, "contains the promise and the potency of great things, but the realization will be deferred," it thinks, "*as long as with each new moon a new journal comes, 'not but that'* it believes in medical journals," etc. "But there may be a journalistic superfœtation" out this way; it continues.

Our Eastern co-laborer need have no fears of Western medical journalism *so long as* they may be right in tone and quality, *not but* they might prove harmful to the profession if improperly conducted. But it must not be forgotten that the Eastern sun of medical science shines also on us in the West and that it is barely possible for Western journals to increase in number without the "*malicial disadvantage to the profession*" in general, (whatever that may be), which Dr. Shrady so dolefully predicts.

Dr. Shrady concedes that there "are rich kernels" to be extracted from the "sometimes vesting shell." He thinks it confusing, expensive and time-consuming, to go over all the Western journals and extract their rich kernels, yet he "cannot but think of the brilliant journalistic effect that would result, if the rich material, now so widely distributed, were combined in one solid and successful periodical." We leave our readers to infer what solid and successful periodical the doctor may possibly have had in mental vision when he penned the potent phrase.

For our part we are willing to stand the confusion, the expense and the time consumed, in winnowing out the wheat from the chaff, or "the rich kernels from the thickly investing shells," of Eastern cotemporary medical literature, and we think it but fair that our Eastern friends should reciprocate our labors. It is exceedingly unkind to wish to strangle new medical journals at their birth simply to get rid of the labor of looking at them and passing on their good or bad qualities.

Doctor, the medical journals of the West are like country cousins—they are prolific and they will come into the families of their city kin. If they are treated with civility and encouraged they may make smart and comely city chaps after awhile and have all the airs and confidence and prosperous appearance of the brighter lights that may have shone before them, in great Eastern cities.

Vagabondage.—Certainly no humane and enlightened person wishes for a return of the days when witches were burned, the insane were whipped and neurotics were consigned to the penitentiary. Many human failings, which in the night of the Middle Ages, or even within the memory of men still living, were regarded and punished as sins, vices or crimes, are at present held to be diseases, or, at most, morbid

immoral tendencies and their victims are now received into hospitals or asylums where physicians preside. This reformation has been aptly termed the war of conquest, which the medical fraternity has successfully waged against the magistracy.

A recent lecture, in which a foremost worker in this field of reform, Professor Benedikt, of Vienna, had the insight and courage, to defend the so-called "tramps" from the severity of the existing laws directed against them, deserves notice in our pages. We cull from the report of a late Berlin journal, *Der Zeitgeist*.

Doctor Benedikt, in this lecture, defines vagabondage to be either acquired or natural. In the acquired form, two groups of vagabonds are distinguishable. In the first group belong convalescents prematurely discharged from hospitals, who are temporarily incapable of work. This group is further composed of chronic valetudinarians, of sufferers from senile debility and of individuals intellectually or morally weak. The second group consists of persons that have been plunged into misery by pecuniary reverses of fortune, and the like.

None of these accidental vagabonds should, according to Dr. Benedikt, be subjected, as now happens, to the penal laws. They have a claim upon society for charitable support, either in convalescent hospitals and asylums or by the provision of wages commensurate with their earning capacity, or by outright pecuniary aid.

Among the individuals who have acquired vagabondage, Dr. Benedikt further classes such adults and children as at birth were free from all psychological tendency to this state, but who, through neglected education, enticement from the path of duty, intolerable environments and the like, have been transformed into vagabonds and have also, perhaps, won still worse defects of character therewith, such as drunkenness.

In his category of natural vagabonds, the Professor cites young children that appear to have been innately designated for a vagrant's existence and who already gave, during the innocence of infancy, psychological tokens of the vagabondage to which they were predestined.

In the task of redeeming adult vagabonds much success has attended their judicious constraint to work, but with young subjects a less happy outcome of attempts in the same line has been observed, probably because the

latter are mostly recruited from children who have suffered from great moral neglect.

For the protection of society against incorrigible and hopeless vagabonds, Prof. Benedikt would have all those that are found, on judicial inquiry, to be permanently or by relapse, wedded to their habits, consigned by decree of court, to appropriate institutions for their detention and treatment.

According to the view taken by the lecturer, the psychological ingredient most essential to vagabondage is a natural or acquired aversion to labor, which itself depends upon asthenia of the will. Whence it comes that persons who, through sheer irresolution, are incapable of labor, become fitted for effective work, when under adequate supervision they are constrained thereto. A second important element is the shallowness and fickleness of the subject's character and this is the soil which is most prolific of the professional vagabond, or tramp. A third elementary cause of vagabondage is designated by Dr. Benedikt as claustrophobia, under the operation of which, individuals, as has happened to entire tribes of men, become powerless to abide in confined and unchanged localities. Another noteworthy factor he finds in a certain psychical state of unrest which prevents the afflicted possessor from persevering in any one continuous and coherent line of effort, but he veers to every shifting suggestion or impulse.

While discussing the relation of vagabondage to crime, Dr. Benedikt instances the remarkable phenomenon that vagabonds may prove themselves to be the veriest knights of honesty and virtue and may suffer privation, misery and despair without once giving way to a criminal act. On the other hand, remarks the lecturer, vagabonds frequently commit crimes for the sole purpose of being committed to prison. It is characteristic of this description of offenses that they are usually perpetrated in the presence of the public or of the police authorities. In a paroxysm of extreme exasperation and despair, the tramp sometimes commits an atrocious crime—his alleged grounds therefor being that he courted extreme punishment and even death.

In conclusion, Dr. Benedikt vividly describes and emphasizes the impression made on him by a visit to Merksplatz, where four thousand Belgian vagabonds were colonized. The Belgian Minister of the Interior gave the

prestige of his authority on the occasion by patiently accompanying the Professor throughout his visit and the latter succeeded in classifying that whole vagabond community into scientific groups. The actually insane did not fill an insignificant category. Prof. Benedikt adds: "How magically such a demonstration *ad oculos* succeeds in clearing up a great social problem, with which the psychologist only is competent effectually to deal."

W. W.

Spermine and the Testicle Liquid.—In the April number of the *Archives de Physiologie* its distinguished editor-in-chief, M. Brown-Séquard, makes some remarks on these subjects, which are so very pertinent that we deem no apology necessary for placing the views of this distinguished physiological and neurological *savant in extenso* before the readers of the ALIENIST AND NEUROLOGIST. A perusal of the extract will reveal to the reader some important critical differentiations *apropos* of the subjects under consideration, as indicated in the caption of the article:

Remarks on the Spermine and Testicle Liquid, by Brown-Séquard.—The spermine of Prof. Poehl, of St. Petersburg, and of other chemists—is it the substance which acts so powerfully at the time of its administration in injections under the skin of the solution of the testicle juice, the employment of which I have recommended?

Since the publication of my observations on the testicle liquid many chemists in America, Russia, Austria and Germany have thought the crystallizable substance elaborated under the name of spermine or spermatine must needs be the active principle of the solution of the juice which I extracted from the testicles and from the spermatic vessels of different animals after death. I do not positively declare that this supposition is false, but I do say that although it may be established with the support of Prof. Tarchanoff and a number of Russian physicians, that the spermine of Poehl shall be endowed with analagous properties to that of the testicular liquid like that which is prepared by the College of France, it will not be proved to be to the crystallizable principle that is due the power of this liquid.

The following facts give a peremptory demonstration in this regard: The preparers of spermine, in making this extraction, employ the spermatine, that is to say, the spermatical animalcule, the particles of which they regard as the liquid in which they find these anatomical elements. Now it is more possible that the spermine may have been furnished only by these anatomical elements, or by one of them, than by the juice in which they find themselves, or in short by all these portions together. It is known indeed that I only employ in subcutaneous injections of

this perfectly transparent filtered liquid containing nothing solid that the most powerful microscope can discover. The spermatical animalcules form their cell structure and all that the eye can see by the aid of the microscope, in the sperm, not having anything to do with the dynamogenic power of the liquid of the College of France. This did not prevent the entire spermatie fluid (that is to say the juice, the spermatozoa and the cellules) from having recalled to life, at three different times the wife of a young physician, who had received it in injections under the skin (*Arch. de Phys.*, 1890, page 641).

It is said that the spermine is a leucomaine ($C^3 H^5$ oz.) which Schreiner (in 1878) had well studied from a chemical and physical point of view. He had drawn out not only some of the spermatie fluid but some of the heart and some of the liver of the calf, the testicles of the bull and of the surface of anatomical preparations held in the alcohol. Before Schreiner it was known as the crystals, which was called crystals of Charcot-Neumann, and which was phosphate of spermine. It had been found in the sputum in a case of emphysema with catarrh, in the expectorations of bronchitis, acute or chronic, in the blood, in the spleen of leucocythemics and of anemics, in the marrow of the bone, etc.

We think we have established that the active principle of the liquid which we have employed is the same that is derived by resorption of the spermatie liquid in the testicles, in the seminal vesicles and in the different passages, and which possesses all the energies of young and vigorous men. This principle does not therefore consist in a substance which is found everywhere, not only in men but also in women affected with anæmia and leucocythemia. What if it is but a leucomaine, which has the name spermine, in the prostatic fluid, in the sperm, in the liver, in the spleen and elsewhere? I have no reason for denying, but the chemists have yet to find which is the active principle (or perhaps which are the active principles) of the liquid proceeding from the testicles and which I have employed in injections under the skin. If they had been willing to have made this investigation, it is in the whole of the fluid portion soluble in water, which they had drawn from the testicles and from the different passages, that they should have searched. It is this part only which passes through the Pasteur filter and which I inject. The spermatie animalcule, the proper function of which is so radically different from that of the spermatie liquid, contains perhaps the active principle of a portion of the juice. This is what chemical investigation is yet to establish. It will be easy to have a considerable quantity of spermatozoas, in the liquid which we know to possess the active principle, but the point is, since these animalcules remained in the filter, from which they had been able to be drawn, it will be easy to show that the chemists have not all the facts.

The physiological properties of the spermine of Poehl have been well studied by a scholar of great merit, Prof. Tarchanoff. I have shown in another work that it is notably different from the testicular liquid prepared by d'Arsonval and by me. It is not cause for surprise regard-

ing these differences that this spermine is drawn from sperm exclusively, since the liquid which I have recommended does not contain (simply) a part of the spermatid fluid.

Conclusion 1st. The substance which forms the crystals of the spermine of Charcot, Neumann and Schriener may be possessed of dynamogenic power notably.

2d. The spermine of Poehl which, though it may have value, differs too much from the testicular liquid prepared as I have shown, to justify its replacing it.

3d. The question as to whether it is a dynamogenic substance of the testicular liquid is entirely undetermined.

Friedrich's Ataxia: its Relation to the Conducting Paths in the Spinal Cord.—At the Congress of American Physicians and Surgeons, Dr. David Inglis, of Detroit, read a paper upon the above subject before the American Neurological Association.

He reports in brief, a case of Friedrich's Ataxia in a boy of six years of age, in which the symptoms conformed accurately to Friedrich's own summary of the characters of the disease, viz., "Impairment in the combination and harmony of movements developing gradually and spreading from the lower to the upper half of the body and always involving finally the organs of speech, sensibility and the functions of the special senses and of the brain being intact; paralysis of the sphincters and trophic disturbances are absent: less common phenomena are curvature of the spine, sensations of vertigo and nystagmus. From a clinical point of view we must regard the disease as a progressive paralysis of the faculty of combination of movement."

A review of the thirteen recorded autopsies shows a practical agreement that the pathological condition underlying the disease consists in a progressive sclerosis which always affects the column of Goll, the column of Burdach also, but not so completely, the direct cerebellar tracts with Clarke's column in most cases and the crossed pyramidal tract in some cases, but the sclerosis is here not so intense. We have to deal with a disease of the tracts which degenerate upward, which are usually looked upon as centripetal and as conveying sensory impulses.

Author contends that the symptoms of Friedrich's Ataxia afford a demonstration that these tracts do not convey sensory impulses upward, for sensation is not impaired, but that they are the main tracts for the conveyance of co-ordinated motor impulses downwards; that

their anatomical relations with the medulla, cerebellum and mid-brain, as well as the facts of Friedrich's disease agree in showing them to act to co-ordinate motor impulses of the mid-brain, cerebellum and higher and lower levels of the cord.

The facts of embryology strengthen this theory. At the end of the foetal life, at a time when the pyramidal tracts are undeveloped, the posterior columns and direct cerebellar tracts are complete. Their function evidently begins at once after birth. When we remember that the new-born infant is characterized, not by voluntary control of its muscles, not by accuracy of sense-perception, but by an extensive co-ordination of involuntary motor functions, the conclusion is easy, that these, the only tracts fully developed at birth, subserve these purposes.

The direction of Wallerian degeneration is not necessarily the same as the direction of normal physiological impulses in any given nerve tract.

“Cæcitis Syllabaris Et Verbalis, Sed Non Litteralis” (Syllable and word, but not letter blindness).—A new variety of Aphasia. Under this title Professor Ivan P. Mierzejewski, of St. Petersburg, describes (*Vestnik Klinitcheskoi i Südebnói Psikhíatrii i Nevropatologii*, vol. ii., 1891, page 26) a case (according to the *British Medical Journal Supplement*) of peculiar word blindness with normal letter vision. The patient was a very nervous, emaciated, pale and weakly built medical man, aged fifty-six, suffering from pronounced sclerosis of the temporal vessels, pulmonary emphysema, cardiac hypertrophy, chronic bronchitis, and chronic nephritis. When twenty-three years of age he had had syphilis. In January, 1890, he suffered from dropsy and uræmic drowsiness of four or five days' duration. The latter condition subsequently recurred twice at intervals of about two months. Shortly after the third attack of somnolence the patient noticed that he was unable to read, though he could distinctly differentiate letters, and his sight was otherwise good. At present, examination shows that he actually can differentiate every individual letter, but utterly fails to combine letters into syllables or words. He can write to dictation freely and correctly, but is unable to read what he has written. Similarly he writes his prescriptions correctly, but is unable to verify their composition. He can copy anything perfectly well, but without under-

standing either the original text or the transcript. Meanwhile, he reads and understands figures, being able to name correctly even numbers of many figures. His sight is excellent, the ocular fundus absolutely healthy, speech distinct and generally normal, his mental faculties unimpaired and there is nothing abnormal about his motor, reflex, or sensory functions. [It is astonishing in how many ways the centers for the comprehension, perception, and expression of word and letter, sight, sounds, and expression formulæ, may be morbidly touched. Verily in this region of the cortex is the harp of a thousand strings of Holy Writ.]

The Re-Evolution of Mental Functions After Epileptic Attacks.—Prof. A. Pick, of Prague ("Arch. f. Psychiatrie, XXII., 3"), following a suggestion of Hughlings Jackson, reports a study of the order in which the brain resumes its mental functions after the unconsciousness of epilepsy.

The patient had very frequent attacks, in which he was first doubled up, with head drawn to the knees and then hopped along like a frog, a form of *epilepsia procursiva*. Word-deafness was a prominent defect immediately after each attack and could be divided into three stages. In the first stage it was absolute, the patient replying to everything in a dazed, automatic way and understanding nothing; *e. g.*, "What is your name?" Patient: "What please—you want—" "Do you know me?" Patient: "How please—what please—" "Put out your tongue." Patient simply shakes his head. In the second stage, shortly following the first, words were mechanically repeated as heard, but not understood; *e. g.*, "Do you know me?" Patient: "You—me." "What day is this?" Patient (slowly): "What—day—is—this—" In this stage he could read aloud correctly, but without comprehension, and was unable to name objects shown to him. In the third stage words were repeated in sentences of a different form, but still not understood; *e. g.*, "How are you?" Patient: "How am I?" "Do you know me?" Patient: "Of course I know you." "Who am I?" Patient: "No, you are—" A few minutes later everything would be heard and understood normally.

As in organic sensory aphasia, counting could be done correctly before the use of language was regained, and nouns were the last words to be recalled or understood.

The visual fields were constantly found contracted, for white and for colors, after each attack, but rapidly regained their usual size. Pick thinks that the visual, auditory and psychical centers of the cortex are equally depressed by the attacks.

HOWELL T. PERSHING, Denver.

Overcrowded Hospitals.—It is almost an impossibility to read a report of a State Hospital for the Insane without finding a statement of the overcrowded condition of the institution. Why is this so? There must be some good reason for this state of affairs existing in nearly every State in the Union. Either there is a most alarming increase in the insane population, or else there is a wonderful deficiency of brains and funds to provide for these unfortunates, or, very likely, it is a combination of both. Our hospitals are unfortunately under the control of that most miserable class of beings, politicians and, though it may not be a direct control, yet the wills and dictates of these individuals have a great influence on the welfare of their unfortunate fellow-citizens. Our State Legislatures know about as little of the State Hospitals as it is possible for men to know and yet they are the ones who see to and dictate the needs of these institutions. The visits of their committees afford a pleasant diversion for our statesmen (?) and they return to their duties knowing about as much as when they started.

There is no more potent factor working against the successful treatment of the insane than that of overcrowding. Cannot some good angel suggest a plan by which these men could be compelled to abide by the decisions of those understanding the needs of the insane? It is high time that politics and insanity were treated separately.

G. R. T.

Catalepsy.—The journals of Linz, Austria, relate a remarkable case of hysterical catalepsy which befell a young peasant girl in the neighborhood of that city. During the sudden and prolonged suspension of the senses and of volition which characterized the attacks, the uneducated cataleptic pronounced correct Latin phrases and even recited in the same tongue a sermon on the virtues of the Rosary.

A physician of Linz, well versed in medical jurisprudence, who suspected an imposture, made numerous experiments with the patient, puncturing her with needles

and attempting to surprise her into consciousness by other painful and unexpected procedures. He finally reported that her disease was real and without the slightest vestige of malingering. The sermon, he alleged, could not have been committed to memory by the patient, while of both sermon and phrases, the delivery of which she had heard in church, the dull-witted girl apparently retained no recollection whatever after subsidence of the attacks.

W. W.

What Did Shakespeare 'Die of?—There is a tradition, says the *Medical Times*, of a very respectable antiquity that he died of a fever contracted through going on a drinking bout with Ben Jonson and other boon companions. Mr. J. F. Nisbet, in his new work, "The Insanity of Genius," discusses the question from an entirely new point of view, that of pathology. In the author's opinion, Shakespere died of paralysis or some disease akin to paralysis. The signature to the will, he holds, affords strong presumption of this, but he has also other facts to adduce in support of this theory. In 1657 Dr. Hall's medical cure book was published by James Cooke, "A Practitioner in Physick and Chirurgery." Dr. Hall, as is well-known, was Shakespeare's son-in-law and his book proves beyond doubt that nervous disease existed in Shakespere's family, a fact which Mr. Nisbet considers accounts for the short average duration of the lives of its members and the speedy extinction of the line of Shakespere's direct descendants.

Psychical Therapeutics has been deemed of sufficient importance to constitute the subject of an entertaining, instructive and opportune address to the District Academy of Medicine, at the close of the present year, by its retiring President, Dr. Wm. B. Sprague (*Vide American Lancet* for October), in which S. Bassi's Analysis of the Pathology of Grief, is presented and the psychical management of neurasthenia and their morbid condition is discussed from a psycho-therapeutical standpoint.

American Humane Education Society.—The publications of the American Humane Education Society are suitable for Asylums, Hospitals, etc., furnishing good reading matter for convalescing patients.

Chloralamid as a Hypnotic in the Treatment of Mental Diseases.—Dr. D. F. Kinner, of New York (*Medical Record*, July 12th, 1890), has tried this remedy in fifteen cases of mental disease for the purpose of producing sleep. The cases included five cases of acute and two of chronic mania, one each of primary, secondary and senile dementia and four of acute melancholia. From his experience with the drug in these cases, Dr. Kinner has reached the conclusions: that chloralamid in many instances acted too slowly, especially in violent mania, causing restless sleep in these cases when at all effective. In melancholia it acted better and sooner. He does not consider it a preferable hypnotic in acute delirious mania or other cases with great excitement and insomnia. Sixty-grain doses caused sleep within half an hour, but are apt to cause vomiting, vertigo and other disagreeable symptoms. He begins with twenty-five and gradually increases to forty-five grains. Though disappointing in some cases, in many he found it a valuable hypnotic.

The Deaths of the following distinguished members of the medical profession abroad have been announced since our last issue: Dr. Fischel Emeritus, Professor of Mental Diseases in Prague, in his seventy-ninth year. Dr. Adolf Schauenstein, Professor of State Medicine in Graz and author of works on Medical Jurisprudence and Hygiene.

Mechanical Restraint of the Insane.—This question was discussed by a large number of alienists at the November meeting of the Medico-Legal Society, in New York. It was the most complete discussion which has taken place in this country for a great number of years. While we would not advocate frequent discussion of this much-vexed question, yet we cannot help believing that an occasional expression of opinions, such as occurred at the Medico-Legal Society, must result in good.

The subject was opened by Dr. Theodore Diller, who strongly protested against the total abolition of restraint, maintaining that it had in some places been set aside largely for sentimental reasons. The paper was discussed by Drs. Bryce, Pilgrim, Blumer, Fletcher, Maudsley, Godding, Chapin, Hack Tuke, Curwen, Wise, Trowbridge and a number of others.

The Mistaken Rigor-Mortis.—That the superinduced nervous phenomena sometimes attending severe *post-partum* hemorrhage may so affect the muscular system as closely to simulate cadaveric rigidity, at least in the estimation of the laity, has been demonstrated recently in Mirabel, a little commune of Department Tarn-et-Garonne, France, with most tragic results.

M. Meunier, of the *Courrier des Etats-Unis*, vouches for the following details, under date of Paris, November 18th, 1891 :

Mdme. Poffis, aged 22 years, a resident of the above-named Commune, fell into profound and prolonged syncope, on the termination of her sudden accouchement. No medical aid was called. She had lost much blood, was pale and cold and her body was stiff. Two days elapsed and she was still pale, cold and rigid, without sign of consciousness, pulse or respiration. She was believed to be dead and the relatives testified to her decease and proceeded to inter her.

A woman who was charged with placing her in the coffin remarked that the place in bed occupied by the supposed corpse was slightly warm. Believing for the time that she was mistaken, or else not realizing the significance of the discovery, she held her peace. But she did not refrain during all the funeral ceremony from ruminating over the impressions she had received. They finally developed into her belief that Mdme. Poffis was not dead. But not until the grave had been filled did she acquaint the mourners with the facts.

The body was exhumed as speedily as possible, whilst a physician was summoned in all haste. The latter arrived just as the frantic husband lifted the coffin lid and threw himself in despair upon the body of his wife.

There was indubitable evidence that she had been buried alive. The shroud was torn and her bruised limbs and bleeding finger-nails attested the struggle which she had vainly made against the walls of her prison. But asphyxia had supervened and poor Mdme Poffis was now really dead. Every effort by the physician to resuscitate her proved useless and the grief of the husband, who now experienced the second death of his wife, knew no bounds.

W. W.

Medico-Legal Society.—The January meeting, 1892, was held on January 13, 1892, for the installation of officers, and the annual banquet, at the Hoffman House, at 6:30 o'clock, p. m. President Clark Bell, Esq., pronounced his retiring address. The inaugural address of the President-elect, Ex-Judge H. M. Somerville, followed, and then came the "flow of soul." This society has been so prosperous under the presidency of Mr. Clark Bell, that its perpetuity is now fully assured.

Another Asylum Physician Killed by a Patient.

—Dr. W. W. Reeves, Superintendent of the State Lunatic Asylum, Austin, Texas, was shot and almost instantly killed, on December 29th, 1891, by Henry Purnell, a discharged lunatic whom the Superintendent indulgently kept in some service in the institution at Purnell's request, till he could find some outside employment, and who was till recently retained in the care of the institution as a trusty, supposed to be cured of lunacy. The duty assigned to him, however, had been given to another party, who formerly did the work, and it is suspected that this had something to do with Purnell's desperation in shooting his benefactor, which was done by firing the load from a shotgun into the Doctor's breast as the latter was standing but a few feet distant. The Doctor expired without being able to speak. Purnell walked away as one or two persons present were giving his victim their attention, and soon after surrendered and was placed in jail. Purnell had been an inmate of the asylum, off and on, for some years, having been several times discharged as cured; and considered harmless and allowed as a trusty outside the institution. He is a son of ex-United States Marshal Thos. F. Purnell, of Austin.

The gun with which the killing was done he borrowed in the city, saying he wanted it for hunting. As Purnell was on his way to surrender to the sheriff he told a party he met that he had to kill Dr. Reeves and that he had cause enough. Later, in jail, he declined to state any cause, which he said would come out at the proper time, adding that he went to the asylum the same day he got the gun for the purpose of shooting Dr. Reeves.

Vigilance is the price of life and new asylum physicians should be wary.

Psychical Sanitation.—Since the reform inaugurated by Pinel, Chiarugi, and Tuke in the care of the insane, by which non-restraint of the insane has largely taken the place of their former undue confinement and undeserved chains, a sentiment of latitude for the lunatic has grown to such an extent in the public mind that proper surveillance of these minds diseased has been too much relaxed and a dangerous liberty to the lunatic is allowed them out of the institutions for their care and custody.

The startling murder of President Garfield, preceded by the attempt on the life of Jackson, followed by the recent threat and attempt to execute it, on the life of President

Harrison, the late tragedy in New York by which Russell Sage and Jay Gould only escaped assassination through most fortuitous, if not providential circumstances, and others were killed and maimed, ought to set the public and the law-making and law-executing authorities to thinking in the line of preventive legislation and action, to secure the people who are yet sane against the sudden contingency of life-forfeiture to the delusive impulse of every perambulating "harmless lunatic," so-called, who, swayed only by a morbid idea that Heaven has charged him with a mission to right the wrongs of humanity, peaceably if he can perhaps (with moral suasion), but violently if he must, with the now too handy dynamite or gun, usually ending with the final conclusion and insane conviction that only violence can possibly prevail against the perverse and wicked object in whom is personified the wicked power he is commissioned to destroy. We are having Hadfields and Bellinghams enough in our day to set the public to thinking in the direction of a remedy.

These insane tragedies by "the harmless insane" at large, who ought to be restrained, are becoming far too frequent. Their number is appalling. We need only to carefully scan the daily press to have our eyes opened. One of these quiet, harmless lunatics, kills a friend for refusing to change his money; a husband slays his wife for some trivial cause or none at all; a barber cuts an unsuspecting customer's throat in his chair; a train, freighted with human lives is thrown from the track, or a building full of people blown up or burned by an insane fiend; wives and sweethearts are daily sacrificed to morbid jealousy and innocent babes are immolated by religious madmen at large, while cranks innumerable carry the Christian Science and the Mind Cure crazes to fatal extremes in this free country; "Jack the Rippers" go on in unprecedented careers of the most diabolical murder to gloat a morbid thirst for blood, or gratify some other insane idea, or in obedience to epileptic impulse, and the unconcerned public endure these often preventable calamities with singular complacency as if remedy were impossible, while it makes stringent laws for the inspection of steam-boilers and for assuring itself of the qualification of engineers, and carefully guards by quarantine against the introduction and spread of epidemic diseases.

Why not quarantine, so far as may be practicable, against the so-called harmless perambulating lunatic, and

be assured that he is in fact harmless before he is permitted to be at large. A health officer in the cabinet would soon suggest a remedy for much of the harmless lunacy there is abroad in the land, unconsciously only awaiting opportunity and suitable excitement to fan the latent fire into furious destruction. There is potency for dire evil in minds morbid. Few things are more dangerous to the public welfare than minds diseased, at large, with power to act. Let the lunatics be corraled or, in the language of law, "show cause" why they should be at large. While we write a physician in Chicago is hastily summoned to his death by a lunatic who awaits the unsuspecting physician's coming with ready and fatal revolver.

Vivisection.—Robert Ingersoll and the anti-vivisectionists to the contrary notwithstanding, without vivisection the hand of physiological advance would have been set back many centuries on the dial of human progress and the names of Bichat, Morgagni, Golgi, Monk, Ferrier, Fritsch, Hitzig, Bence-Jones, Brown-Séquard, Horsley and Pasteur would scarcely have been known and their contributions to human knowledge and its resources of relief to the suffering, would indeed have been, up to the present date, but insignificant as compared with the astonishing array of fact and resource now at the command of medical science and its attendant arts.

Do Doctors Do More Harm Than Good?—The question has been gravely asked of late in the public press, "Do doctors do more harm than good?" and many most silly answers were elicited, as if there should not be incompetent physicians, as well as blundering cooks that spoil the broth, bakers that make their cakes all dough, *restaurateurs* that "cannot keep hotel" and men in every occupation who are failures, and good physicians do abound. There are plenty of them well informed, competent in practice and aspiring and studying to advance. The public can find them by searching and the wiser people do find them.

The trouble with many who get little satisfaction from the doctors they employ, is, that they take no pains to discriminate the competent from the incompetent. Their selection of a physician is a matter of chance with them. He belongs to their church or society or club, or he is their next door neighbor or they fall in with him by chance or in some emergency he is sent for, or he is the

family doctor who "tackles" everything from Grave's disease to Friedrich's ataxia with the same confidence as that with which he treats a case of whooping cough or epileptoid or leaves to nature a case of chorea minor to "get well of itself." The family doctor has often no use for specialists, frequently regarding them as cultivated quacks, invading the territory of the general practitioner. Such family practitioners are unwise and unsafe counsellors. They suffer from a sort of psychical blindness with reference to medical progress, especially neurological advance; and when such "blind lead the blind," they all "fall into the ditch" together.

The International Executive Committee of the Pan-American Medical Congress.—The Committee on Organization of the Pan-American Medical Congress, at its meeting at St. Louis, last October, elected the following International Executive Committee: The Argentine Republic, Dr. Pedro Lagleyze, Buenos Ayres; Bolivia, Dr. Emelio Di Fomassi, La Paz; Brazil, Dr. Carlos Costa, Rio de Janeiro; British North America, Dr. Jas. F. W. Ross, Toronto; British West Indies, Dr. James A. De Wolf, Port of Spain; Chili, Dr. Moises Amaral, Santiago; United States of Colombia, Dr. P. M. Ibañez, Bogota; Costa Rica, Dr. Daniel Nuñez, San José; Ecuador, Dr. Ricardo Cucalon, Guayquil; Guatemala, Dr. José Monteris, Guatemala Union; Hayti, Dr. D. Lamothe, Port-au-Prince; Spanish Honduras, Dr. George Bernhardt, Feguagalpos; Mexico, Dr. Tomas Noriega, City of Mexico; Nicaragua, Dr. J. I. Urtecho, Grenada; Peru, Dr. J. Casamira Ulloa, Lima; Salvador, Dr. David J. Guzman, San Salvador; Spanish West Indies, Dr. Juan Santos Fernandez, Habana; Uruguay, Dr. Jacinto De Leon, Montivedeo; Venezuela, Dr. Elias Roderiguez, Caracas; United States, Dr. A. Vander Ven, Albany, N. Y.

Hawaii, Paraguay, Santo Domingo, The Danish, Dutch and French West Indies are not yet organized. Nominations of local officers have been received from a majority of all the members of the International Executive Committee, and a number of the lists have been confirmed by the Committee on Organization. These will be announced as rapidly as acceptances are received.

Cincinnati,
January 17th, 1892.

CHARLES A. L. REED, M. D.,
Secretary-General.

The Pan-American Medical Congress in the United States of Colombia.—Pursuant to nominations by Dr. Pedro M. Ibañez, of Bogota, member of the International Executive Committee for the United States of Colombia, the following organization of the Pan-American Medical Congress has been effected in that country: Vice-President, Dr. Pio Rengifo, New York; Secretaries of Sections,—General Medicine, Dr. Ignacio Gutierrez Ponce, Paris; General Surgery, Dr. Rafael Rocha Castilla, Boston; Military Medicine and Surgery, Dr. Abraham Aparicio, Bogota; Obstetrics, Dr. Joaquin Maldonado, Bogota; Gynecology and Abdominal Surgery, Dr. Jose M. Buendia, Bogota; Therapeutics, Dr. Manuel Plata Azuero, Guaduas; Anatomy, Dr. Joan D. Herrera, Bogota; Physiology, Dr. Antonio Bargas Vega, Bogota; Pathology, Dr. Nicholas Osorio, Bogota; Diseases of Children, Dr. Ant. Gomez Calvo, Bogota; Ophthalmology, Dr. Proto Gomez, Bogota; Laryngology and Rhinology, Dr. Luis Fonnegra, Bogota; Otology, Dr. Carlos Esguerra, Bogota; Dermatology, Dr. Daniel E. Coronado, Bogota; Orthopædics, Dr. Juan E. Manrique, Bogota. Naval Hygiene and Quarantine; Gabriel I. Castaneda, Bogota; General Hygiene and Demography, ———; Mental and Nervous Diseases, Dr. Pablo Garcia Medina, Bogota; Oral and Dental Surgery, Dr. Guillermo Vargas Paredes, Bogota; Medical Pedagogics, Dr. Jorge Vargas, Bogotae; Medical Jurisprudenc, Dr. Leoncio Barreto, Bogota. Auxiliary Committee (each member being the official representative of the Congress in his respective city): Drs. Nicolás Osorio, Andrés Posada Arango, Jorge E. Delgado, Eugenio de la Hoz, Domingo Cagiao, José Manuel Rodriguez, Paulo Emelio Villar, Felix M. Hernández, Rafael Calvo, N. Ribón, Milceades Castro, Cayetano Lombana, José M. Martinez, Isaias Saavedra, Severo Forres, N. Villa, Everisto Garcia, Miguel Caicedo, Emilio Villamizar.

The following medical societies have been elected as auxiliaries of the Congress, viz., Academia Nacional de Medicina, Academia de Medicina de Medellin, Sociedad de Medicina del Cauca.

The following journals have been designated as official organs of the Congress, viz., *Revista Médica*, Bogota; *Revista de Higiene*, Bogota; *El Agricultor*, Bogota; *Boletín de Medicina del Cauca*, Cali; *Anales de la Academia de Medicina de Medellin*, Medellin.

The expressed wish of the profession of the United States of Colombia is for a date of meeting during the Colombian Exposition.

Cincinnati, CHARLES A. L. REED, M. D.,
January 17, 1892. Secretary-General.

Announcement for 1892.—Twelve years of the life of this JOURNAL have passed into history. We ask the constant reader since it was founded to kindly recall our promises and predictions made at its birth and the later reader to turn to our first prospectus and, after comparing them with our work, say if our inceptive promises and predictions have not been fairly fulfilled?

And if our pledges to furnish a creditable and profitable journal of mental and nervous diseases and of forensic psychiatry and neurology have been faithfully kept may we not justly claim your continued confidence and support?

Confiding in your charitably generous judgment we are at least emboldened to ask your continued assistance by friendly word, frequent contribution and renewed subscription.

Since the ALIENIST AND NEUROLOGIST was founded you have seen mental and nervous diseases gain remarkable ascendancy in the professional mind, until the prediction made in our first prospectus is now almost fulfilled; neural pathology reigns almost "paramount in professional thought," the bacillian theory and germ infection only contesting for a place with that of neuropathic implication in morbid phenomena as they fall under the eye of the clinician, to the bacillus being attributed a causative or sequent place rather than the most perceptible place, as we see in the display of neuropathic involvement, so essential in so much of the symptomatic expression of disease.

But for the morbidly touched and pathologically disturbed nervous system in man primarily implicated or through the blood, but a comparatively small proportion of the symptomatic groupings which physicians designate as disease would be manifest. Ordinarily it is when the central or peripheral nervous system responds abnormally to the morbidic impression that the doctor discerns the disturbance which we call disease.

Hence it is that the neurological clinician and consultant now have a legitimate and prominent place in medical

practice and hence it is that neurology has grown of late years into such deserved prominence and indispensable significance in the practice of Medicine and especially since this JOURNAL was founded, has made such rapid advances and secured such marked appreciation by the scientific and advanced professional mind.

These facts are deemed sufficient apology for our continuing to be and without further plea in extenuation of our persistent existence, gentlemen neurologists and physicians, we take this occasion to announce our intention to abide with you another year and we hope many more thereafter.

A Curious Medico-Legal Verdict.—The Court of assize for the Department of Ille-et-Vilaine, France, recently tried a feeble-minded girl, Marie Bodin, of St. Germain-en-Cogles, upon an indictment of infanticide. At the close of the testimony and arguments three questions were submitted to the jury.

First question: Is Mlle. Bodin guilty of having voluntarily caused the death of her infant? Response of jury—*Yes*.

Second question: Is Mlle. Bodin guilty of having concealed her dead infant? Response of jury—*Yes*.

Third question: Is it established that the infant had lived? Response of jury—*No*.

Notwithstanding this verdict was greeted by an outburst of laughter from the auditors, the court sentenced the accused to five years' imprisonment with hard labor.

If innocent, we trust that Marie will fare better before the more intelligent Court of Appeals. W. W.

The October Meeting of the Medico-Legal Society was held at Marlborough Hotel, December 9th, 1891. The subjects discussed were: "Mechanical Restraint of the Insane, by Drs. C. B. Burr, R. L. Parsons, L. L. Prince, W. W. Ireland (of Scotland), E. R. Wallace Dewy (of Illinois) and several others; A paper by Dr. W. P. Spratling, of Morris Plains, N. J., on "'Moral Insanity' Clinical Cases;" "De La Defence de Spectacles Hypnotiques," by Prof. Mierzejewskie, of St. Petersburg; Russia.

Wile's Souvenir Edition to His Monthly.—Wile is nothing if not novel and his novelties are generally

good. Our contemporaries are just now commenting on the *Souvenir* edition of the *New England Medical Monthly* and the consensus of editorial opinion is to the effect that this edition is another one of the vigorous editor's master-strokes.

In this edition the accomplished editor of this live medical monthly shows his *penchant* for good company and as "a man is known by the company he keeps," everyone may see that Wile is a clever fellow. The editor of the *ALIENIST AND NEUROLOGIST* is in the group and so many of our elegant, handsome and accomplished *confrères* of the Medical Press Association that anyone can see that a most judicious selection for the picture gallery has been made. There is no telling what this Danbury medical news man will do next. It will be something equally startling and novel. If you wish to keep track of him and his doings subscribe for the *New England Medical Monthly* and write for it, and maybe you will be in the group next year. If not you will be in the soup.

Relation of Syphilis and Intemperance to Insanity.—Dr. G. Adler Blumer contends that there is an antecedent history of syphilis in sixty to eighty per cent. of all cases of general paresis. In the Utica Asylum, the per centage has been fifty-two per cent. Habitual drunkenness in parents is a very potent predisposing cause of insanity in the children. Drunkenness is a transient insanity. Alcohol first excites, then paralyzes in succession every nervous center in the body.

CORRESPONDENCE.

STATE HOSPITAL, DANVILLE, PA., }
December 5, 1891.

MY DEAR DOCTOR:

I have for some time desired to ask the following question, but for various reasons have not done so. However, as I may by this means have my curiosity gratified either from your pen or from some other source, I beg leave to ask why assistants in our hospitals are not allowed to join the Association of Superintendents until they have been for five years in a hospital? It seems to me a rather small business to bar us out until we have attained our majority. And what possible harmful result could come from allowing assistants membership is beyond my range of comprehension. There would be as much reason for a County or a State Medical Society to say to the young physician, "You cannot join us until you have been in practice five years." I suppose we have the privilege of attending the meetings and listening with closed mouths until five long years have passed, when we can be admitted into the "charmed circle."

It seems to me not only to be rather small business but the cutting off of an opportunity for improvement.

If we are to be barred out I think it would be an excellent plan to form an Association of Assistant Physicians and exclude superintendents.

Yours very truly,

G. R. TROWBRIDGE,
Asst. Physician, State Hospital, Danville, Pa.

[We give place to the above plea for the young assistant hospital physicians with our endorsement. We believe in giving the young men of the specialty a chance with the older alienists. "Old men for wisdom, young men for war." The transfusion of youthful vigor into the old blood of alienism can do no harm. The common stream would be invigorated and not impoverished thereby, we think.—ED.]

IN MEMORIAM.

S. S. SCHULTZ, M. D.—Dr. S. S. Schultz, Superintendent of the State Hospital for Insane, at Danville, Pa., died September 27th, 1891, at the age of sixty-five years. Dr. Schultz was born in Berks Co., Pa., July 5th, 1831, receiving his education in his native county until the age of fourteen, when he attended Washington Hall, after which he attended respectively the Academy at Allentown (now Muhlenburg College) and Princeton College, at the latter of which he graduated in 1852. After a preliminary preparation under Dr. Daniel S. Detweiler, of Montgomery County, he entered the University of Pennsylvania, graduating as Doctor of Medicine in 1856. He began the practice of medicine in Allentown, from whence he went to Harrisburg, as assistant physician in the State Hospital. He spent one year in studying the methods in practice in the hospitals and public institutions of Germany, England and France. During the Rebellion he served as surgeon of volunteers and as executive officer and surgeon-in-charge of general hospitals, at Harrisburg, Pa., Covington, Ky., Madison, Ind., and Columbus, O. After the war he returned to Harrisburg, where he was in active practice until 1868, when he assumed the superintendency of the Danville Hospital, which he filled until his death, a period of nearly twenty-three years. Dr. S. Schultz was personally known to us to be a conscientious, painstaking superintendent, the supreme and all-prevailing thought of whose life was the welfare of his patients. His life was devoted to their interests, and while not a brilliant scientist, he was truly a good physician, a scholar and a philanthropist.

DR. JOHN A. THACKER.—Dr. John Adams Thacker, the editor, proprietor and founder of the *Cincinnati Medical News*, died at his residence, No. 121 West Seventh street, Cincinnati, Saturday, December 19th, A. D., 1891.

In the midst of the work he loved so well and so faithfully and ably performed, this talented member of the medical editorial corps was stricken. His disease was *la grippe*, the immediate cause of his death being one of its common concomitants in the valleys

of the Ohio and Mississippi, pneumonia, due probably to the usual toxic paralysis of the vagus nerve.

The deceased was born at Goshen, Clermont County, O., Jan. 1, 1833. He was the son of Dr. John Thacker.

Immediately after his graduation he served as interne at the old Commercial Hospital. He was also in early life, Medical Officer, Longview Asylum for the Insane. He filled the Chair of Psychology at the Cincinnati College of Medicine and Surgery, from 1863 to 1872. In the latter year, upon the demise of Dr. B. S. Lawson, Professor of the Principles and Practice of Medicine, he became his successor, occupying this chair. In 1882, he again accepted the Chair of Practice, but relinquished it the following year on account of ill health. Since that time he had delivered occasional lectures before the classes on microscopy. He was a Fellow of the American Academy of Medicine and Fellow of the Royal Microscopical Society of England.

"Dr. Thacker has long been a conspicuous figure in medical journalism in Cincinnati, he having occupied the editorial tripod continuously for a longer period than any other one man in the history of the city. In 1868, he, in association with Drs. R. C. Stockton Reed, D. D. Bramble and others, organized a 'Journal Association,' and began the publication of the *Cincinnati Medical Repertory*, with Dr. Thacker as editor. From the outset the new periodical manifested vim and vigor. It at once took a stand for the medical interests of the West as against the then overtowering influence of the East, and it stood as the defender of the interests of medical Cincinnati as against those of all the earth."

The following deserving tribute to his memory is paid him by his worthy pupil, Dr. Chas. A. L. Reed, the distinguished Secretary-General of the Pan-American Medical Congress:

"As his pupil of more than two decades ago and as the friend of after years, I have sought to pay no tribute to the deceased other than that which may be told in plain, unvarnished narrative. He himself despised empty rhetoric. In his lectures he was wont to speak in plain perspicuity. In his dealings with men it was his amusement to tear down the mask of hypocrisy. In his dealing with misfortune and misery he had a sympathy for pain and a tear for sorrow. In his dealings with science

he was the relentless foe of error. As I close this hasty sketch and think of him with all his great mind, his great bravery, his great diffidence, his great tenderness, the final thought that occurs to me is that, taken all in all, he was a manly man, he fought a good fight and he died without malice."

DR. ANDREW MCFARLAND.—One of the pioneer alienists of Illinois and of the United States, Dr. Andrew McFarland, has just passed away, a martyr of psychiatry. He was born in Concord, N. H., in 1817. He received his academic degree from Dartmouth College and his medical, from Jefferson Medical College. He was superintendent of the New Hampshire Insane Hospital from 1845 to 1854. In the latter year he resigned to accept the superintendency of the Jacksonville (Ill.) Insane Hospital. This he retained until 1870 when he resigned to establish Oak Lawn Retreat. He was an able alienist, truly says the *Medical Standard*, and like most of the school of Ray, in full touch with European continental psychiatry. "He originated," says the same authority, "in Illinois, the cottage system of treatment." In 1868, he said in language as fully applicable to the cottage caravansaries now as it was then to congregate caravansaries we quote further:

"The radical fault of this system is that the individuality of the patient is stifled and lost in the immensity and compactness of the organization in which he exists. Insane hospitals must be, as it were, decentralized: so much of their truly good features retained as to adapt them to the necessities of the appropriate class."

Our *confrère*, Dr. Kiernan, pays the deceased alienist the following tribute:

"In forensic psychiatry, Dr. McFarland, heedful of science, was defiant of popular clamor for blood. In Dr. McFarland's grave lies buried a wealth of psychiatric observation and research," in which we heartily concur.

Our experience with Dr. McFarland extended over a period of a quarter of a century. He was a scholar and an alienist of no mean attainment and withal a typical gentleman and a good physician. We knew him to be the embodiment of one of whom it might with fullest truth be said:

'The elements were so mixed in him
That all the world might stand up and say,
'There was a man.'"

HOSPITAL NOTES.

EASTERN HOSPITAL FOR THE INSANE, KANKAKEE, ILL.—
Seventh biennial report. Number of patients in the hospital July 1st, 1890, males 1,039, females 648; total, 1,687. The redistricting of the State has caused a great difference in the number of male and female patients in this hospital, and the consequence has been considerable annoyance both to the hospital officials and to the public, as there are still a large number of insane women in this district who are not provided for. The Superintendent recommends additional accommodation in the form of cottages for three hundred females, the *per capita* cost to be five hundred dollars.

The advantages of the "cottage system," are discussed at some length, by the Superintendent, and it is claimed that this system offers better opportunities for proper classification and affords more pleasant and home-like surroundings to these unfortunates. The subject of the employment of the inmates, is an interesting and important part of the report. The various industries, such as broom and basket-making, chair-caning, manufacture of rugs, etc., etc., in addition to the great opportunities offered in the large farm and grounds, affords ample means for the patients to occupy themselves and, moreover, it must be something of a revenue to the hospital.

Dr. Dewey is to be congratulated on the success of his efforts in this direction, for this matter of employment is truly a most important factor in the treatment of the insane. Twelve per cent. of the patients are allowed the privilege of the grounds.

The report calls attention to the question of the separation of the insane criminals and convicts from the others, and advises the removal of this class to institutions especially provided for them. It is certainly a most deplorable fact that the authorities in so many of our States do not recognize the ill results which arise from such a condition of affairs and rectify the matter. Illinois is by no means in any worse condition on this point than a number of her sister States.

A "Training School" for attendants has been organized and efforts are being made to overcome the "hospital routine," which Dr. Dewey claims is an obstacle to progress in the care of the insane.

The report is an excellent one and will bear careful reading. The medical staff consists of Dr. Richard Dewey, Superintendent, and Drs. Bannister, Warner, Skelton, J. C. Dodds, Samuel Dodds and Anne C. Burnet, assistant physicians.

G. R. T.

DANVERS' LUNATIC HOSPITAL, DANVERS, MASS.—Thirteenth annual report. Number of patients in the hospital Oct. 1st, 1889, males 368, females 391; total 759. Admitted during the year, males 214, females 172; total 386. Discharged, males 185, females 147; total 332. Remaining, Sept. 30th, 1890, males 397, females 416; total 813.

A "Training School" has been organized for nurses and is now in its second year. Instruction is given not only on the general subject of nursing and medicine, but also in massage. Lectures are given by the consulting staff and the assistant physicians.

No changes have been made in the care or treatment of the inmates. The medical staff comprises Dr. Chas. Page, Superintendent; four male and one female assistants.

G. R. T.

BINGHAMPTON STATE HOSPITAL, BINGHAMPTON, N. Y.—Twelfth Annual Report. Number of patients in hospital October 1, 1889, males 524, females 584; total 1,108. Admitted during the year, males 55, females 49; total 104. Discharged, males 48, females 57; total 105. Remaining October 1, 1890, males 531, females 576; total 1,107. A new building has been finished and is now occupied by 300 of the most disturbed female patients. This has vacated one ward in another building, which it is intended to fit up as a place of employment for the patients. The new building, however, has not relieved the crowded condition of the hospital and the trustees in their report ask for more funds to increase their capacity if the hospital is to care for all the insane of its district. The Superintendent advocates the "cottage" plan and recommends the erection of two cottages, to accommodate 25 each, at a *per capita* cost of \$300. About 47 per cent. of the patients are employed about

the farm and in the shops. Since the new law of re-districting the State has been passed, the word *Chronic* has been dropped from the name of this hospital.

Entertainments are held during the winter months and religious services each Sunday. The medical staff consists of Dr. Theodore S. Armstrong, Superintendent; Drs. Chas. Eastman, O. J. Wilsey, J. F. Fitz Gerald and H. C. Rodgers, assistant physicians. G. R. T.

STATE HOSPITAL FOR THE INSANE, WARREN, PA.—Annual Report. Number of patients in hospital Dec. 1, 1889, males 371, females 336; total 707. Admitted during the year, males 130, females 89; total 219. Discharged, males 92, females 50; total 142. Remaining Nov. 30, 1890, males 409, females 375; total 784.

Dr. Curwen discusses at considerable length the evils caused by the overcrowding, maintaining that as well as being a great hindrance to the treatment of insanity it in the end makes a much greater expense to the State than would be the case were sufficient accommodation provided for the proper classification of these people. He rightly maintains that recent cases should have the preference of the incurables, and also suggests that provision be made for those who are afflicted with various forms of nervous disorders which in time may develop into insanity but which are not cases suited to insane hospitals, claiming that many cases might be cured before they actually become insane.

A Turkish bath house has been built and "has tended very strongly to the benefit of those who have been treated and in several cases marked improvement has taken place." In cases in which the circulation is "dull and sluggish" there has been a decided benefit. Instruction has been given to the attendants by the Superintendent and assistant physicians on the care and treatment of the insane. Services are held each evening in the chapel. The medical staff comprises Dr. John Curwen, Superintendent and Drs. Guth and Coulter, assistants. Dr. Doane, formerly third assistant, has resigned to enter private practice. G. R. T.

DR. S. G. WEBBER (old number 133 Boylston street) having resigned from the Adams Nervine Asylum, resumes practice as formerly, at 146 Marlborough street. Hours: 1½ to 4 P. M. Board can be procured for patients.

NEW JERSEY STATE LUNATIC ASYLUM, TRENTON.—Annual Report. Number of patients in hospital October 31, 1889, males 391, females 387; total 778. Admitted during the year, males 90, females 87; total 177. Discharged, males 90, females 78; total 168. Remaining October, 1890, males 391, females 396; total 787.

The new building for the accommodation of two hundred patients is completed and leaves the hospital ample means for a proper classification. No changes are suggested in care or treatment. Dr. Gale, fourth assistant, has resigned on account of ill health. The present medical staff consists of Dr. Jno. Ward, Superintendent, Drs. Kirby, Burroughs and Felty, assistant physicians.

G. R. T.

NORTHERN HOSPITAL FOR THE INSANE, ELGIN, ILL.—Eleventh Biennial Report. Number in hospital July 1, 1888, males 259, females 264; total, 523. Admitted during two years covered by this report, males 254, females 212; total, 466. Discharged, males 249, females 218; total, 467. Remaining July 1, 1890, males 264, females 258; total, 522. The new building for the accommodation of 300 patients, male and female, was under process of construction. It consists of an administration building with two wings, each three stories and a garret in height. An appropriation of \$18,000 is asked for the erection of "congregate dining-halls" in connection with the "main hospital" building.

The medical staff consists of Dr. Henry Brooks, Superintendent and Drs. Stone, Young and Patterson, assistant physicians.

G. R. T.

CENTRAL HOSPITAL FOR THE INSANE, NASHVILLE, TENN.—Eighteenth Biennial Report. Patients in hospital Dec. 19, 1888, males 206, females 226; total, 432. Admitted during the two years, males 152, females 137; total, 289. Discharged, males 182, females 153; total, 335. Remaining Dec. 19, 1890, males 176, females 210; total, 386.

The Superintendent in his report speaks very plainly in regard to the delay in "hospital" care after the advent of the disease, arguing from both a social and economic stand-point that this delay is a wrong inflicted upon the friends of the individual and society at large; that besides decreasing the chances of restoration, it, in the majority of cases, causes an unnecessary expense, as the delay only makes the hospital residence a longer one.

Mechanical restraint is used when necessary in preference to either manual or chemical. Dr. Callender has the right idea in this matter and has not fallen victim to the so-called *absolute* (?) non-restraint mania.

The Criminal Jurisprudence of Insanity is dwelt upon at considerable length and while the "jury verdicts" are not harshly criticised, yet the Doctor does not seem inclined to put much confidence in them.

On the night of March 13, 1891, the west wing (male wards) was destroyed by fire, which originated in a patient's room. Eight patients perished from the inability to reach the rooms; and two more, after their rescue, rushed back and threw themselves into the flames. Nothing can be imagined more awful than a fire in an institution for the insane and while we sympathize with Dr. Callender, yet it certainly is a matter for congratulation that, considering the cold and stormy weather, the character of the individuals, the loss of life was not greater. The building was well insured and will probably be replaced.

The medical staff consists of Dr. John Callender, Superintendent and Dr. John Beauchamp, assistant physician.
G. R. T.

WILLARD STATE HOSPITAL, OVID, N. Y.—Twenty-second Annual Report. Number in hospital September 30, 1889, males 966, females 1,064; total, 2,030. Admitted during the year, males 119, females 106; total, 225. Discharged, males 102, females 105; total, 207. Remaining September 30, 1890, males 983, females 1,065; total, 2,048.

The Trustees' report gives a brief history of the hospital since its foundation in 1866. To the best of our knowledge Willard was the first hospital in this country in which the idea of erection in the beginning of detached buildings was followed.

The Superintendent's report is quite an exhaustive one, taking up a number of the most important features of hospital work. About 36.5 of the total number of patients have been employed the greater part of the time on the farm and grounds of the institution. Lectures have been delivered during the past two years to the attendants by members of the medical staff.

The report recommends the erection of a home for nurses, where they can go after their work is done and

be away from the trying scenes and surroundings of the insane ward.

The changing of this institution from a chronic to an asylum for the acutely insane, it has been found necessary to make a number of alterations in the various buildings and the Superintendent recommends that these changes be made in order to properly carry on the work of a "hospital." The medical staff consists of Dr. Chas. Pilgrim, Superintendent and seven assistants. G. R. T.

BUTLER HOSPITAL FOR THE INSANE, PROVIDENCE, R. I.—Forty-seventh Annual Report. Number in the hospital January 1st, 1890, males 76, females 89; total, 165. Admitted, males 52, females 43; total, 95. Discharged, males 46, females 32; total, 78. Remaining January 1st, 1891, males 82, females 100; total, 182.

The institution has been very free from epidemics during the year, with the exception of the inevitable "*grippe*."

In answer to the question, "Is insanity increasing?" Dr. Gorton says: "Although there may be an increase of insanity disproportionate to the increase of the population, it is probably due to the disproportionate decrease of certain other disorders—to the fact that many cases now regarded as insane and so treated, were not formerly so regarded and so treated; that the apparent increase of insanity is much more out of proportion to the real increase than the real increase is to the increase of the population at large; and that no man of the present day need feel a much larger apprehension as to his prospects than did his father before him, so far as his liability to insanity is concerned."

The report contains a number of exterior and interior views of the buildings.

The medical staff consists of Dr. Wm. A. Gorton, Superintendent and Drs. Henry Hall and A. V. Goss, assistant physicians.
G. R. T.

DR. H. K. PUSEY has been appointed by Governor Brown Superintendent of the Central Kentucky Lunatic Asylum.—*Louisville Medical News*.

Neurological Review of Contemporary Journals.

THE CINCINNATI LANCET-CLINIC, for October, contains a timely and valuable article, "On the Neglect of the Study of Mental and Nervous Diseases in Our Medical Colleges." A paper read before the Hempstead Academy of Medicine, August 2d, 1891, by the late Charles W. Reeder, M. D., Portsmouth, O., which concludes as follows:

"It is the duty of every medical college to put into the hands of its students the best that can be obtained anywhere. There is nothing too good for the future physician of the land. Among all these should be given in nervous and mental diseases instruction both in quality and quantity equal to the best in any other study. When this is done there will be no lack of interest in this most important field of the practice of medicine. And the years to come will bless the profession for elevating this branch to a high position and for showing coming generations how to rightly live."

THE STUDY OF THE CRIMINAL.—The *Boston Medical and Surgical Journal*, of Thursday, November 26, 1891, contains the following editorial on this subject:

"Many years ago there was published in America one of the most elaborate studies in the heredity of crime and pauperism that has ever been made, but, perhaps because it was premature, perhaps because the science of criminal anthropology was then in its infancy, it led to no further researches, and since then, with the exception of a few admirable studies of the convolutions of the criminal brain, this country has made no important contributions to the study of the criminal. In 1884, in the preface to the third edition of 'L'Uomo Delinquente,' names from South America are cited, but none from the United States. Yet the work done in other countries had already reached enormous proportions. Italy, of course, continues to lead the world in both the quality and the quantity of her contributions; but international congresses have been held, new journals of criminal anthropology have been started, France, Germany and Russia have done much, and England, Spain, Portugal and South America are falling into line.

"It is to Italy, however, that the student must first look for aid in the study. Lombroso, *il maestro di color che sanno*, with a band of zealous pupils under him, is still working at Turin with unflagging zeal, weighing and measuring the criminal in the minutest detail. His *Archivio* is in its twelfth year, and the fourth edition of his epoch-making and monumental work, 'L'Uomo Delinquente,' is now appearing, and French, German and Russian translations of it have also been published. It is, perhaps, still a question how far all of Lombroso's hypotheses are to be accepted, but the enormous amount of material which he has collected renders one fact reasonably clear—a fact in which almost all workers agree, whatever be their lesser differences—that criminality is

as much a form of nervous degeneracy as alcoholism, insanity, epilepsy, or other nervous affections. Lombroso claims that he found but one man with the physical stigmata of the born criminal who was not a criminal. This may not be an invariable rule. Giacomini has doubted Benedikt's hypotheses that there was a peculiar arrangement of the convolutions in the criminal brain. We may hesitate, in spite of Lombroso's name, before accepting his hypotheses as to the identity of criminality and moral insanity, the close relations between criminality, genius and masked epilepsy, or the atavistic character of crime. Nevertheless, the man who attempts to deny this main thesis, that crime is a form of degeneration, can find few men who know aught of criminal anthropology to support him.

"To the October number of the *ALIENIST AND NEUROLOGIST*, Drs. Lydston and Talbot contribute an article which is noteworthy, not only on account of its intrinsic merit, but because it is one of the first contributions to the scientific study of the criminal to be made in this country. The paper is a condensation of a more elaborate study which is promised later. The histories of eighteen picked habitual criminals are given, presenting many marked types of physical degeneracy, and a study of nine crania, chiefly of criminals, is added. These skulls show most remarkable aberrant types, they have been carefully studied and they show marked asymmetry and irregularity. The writers are of the opinion that the more pronounced criminal types in this country are to be seen in the imported criminals, that the results of evolution and atavistic tendencies are more marked in older countries. The striking features in criminal crania which they find are the tendency to brachycephalism, submicrocephaly, and the great frequency of cranial asymmetry.

"It may be objected that Drs. Lydston and Talbot have studied extreme cases and have not examined large numbers of criminals for the purpose of getting average measurements. This is in part true, yet Amadei, De Paoli, Congnet, Bono, Lombroso, Benedikt and many others have found these cranial anomalies, perhaps less marked, in examining large numbers of criminal crania. They are certainly a departure from the normal, much commoner in the criminal than in the healthy man. Dr. Lydston argues, with justice, that a distorted skull probably means a change in the capacity of the cranium and that it undoubtedly has an effect upon the brain. A single anomaly is not, perhaps, pathological, but when we get many anomalies, in skull, jaw, eyes, nose, ears, teeth, limbs and trunk combined, it is a strong indication of physical degeneracy, and physical degeneracy is now known to go hand-in-hand with mental and moral degeneracy.

"If the objection just given be urged, although unjustly, against Dr. Lydston's work, it cannot be urged against the study of the jaws and teeth in criminals made by Dr. Talbot. He has studied the jaws of 477 criminals. Of these nearly 64 per cent. (314 criminals) presented anomalies, large or small jaws, protruding jaws, high vaults or V-shaped or saddle-shaped arches. Dr. Talbot does not agree with Lombroso in ascribing an exaggerated development pre-eminently to homicides, nor

with Ferri in ascribing small jaws to pickpockets. Nevertheless, the great amount of abnormality affords further proof of physical degeneracy.

"It is to be hoped that further investigations may be undertaken on the criminal in this country. The new science of criminal anthropology is likely to meet with opposition in many quarters, especially among those who cling to the old dogmas of free-will and human responsibility. Even in Italy where jurists, like Garofalo, as well as physicians, are studying crime under its new aspects, the modern views are not recognized in the new penal code. Their object is still the same as the Mikado's, 'to make the punishment fit the crime.' The new science changes all that and shows that we should make the punishment fit the criminal. The born criminal is a degenerate, with a 'will' impaired by bad heredity and defective brain development; he is often no more responsible for his crime than the epileptic for his fits, the paranoiac for his acts, or the drunkard for his inebriety. If taken early, he may be educated into being a tolerably useful member of society. Ordinarily, as we find him in the prisons, he is chronic and often incurable. Our prisons do nothing to cure him, but much may be done in proper institutions, like Elmira. In default of a cure detention is requisite, as with the insane, as a protection to society; but, as with the insane, the detention must be until he is cured; or, if his case be incurable, it must be for life, whether his 'crime' be petty larceny or murder."

CAUSES OF INSANITY.—The *Pittsburg Medical Review*, for October, 1891, contains an article by Theodore Diller, late Assistant Physician at Danville, on this subject, in which he enumerates many of the causes of this disease and makes an intelligent presentation of the relation of mind deranged to organism diseased, based upon the teachings of Maudsley, Herbert Spencer and the Somato-Psychic physiologists and pathologists.

It is rather difficult for anything new to be enumerated in a general way relative to the causes of insanity, this department being pretty well covered by the older writers.

Some of the differentiations which Dr. Diller makes are specially good, even though most of them have been made before.

The following quotation from Esquirol, whose classical delineations of mental disease were made far back in the '40s, relative to the causation of insanity, will serve to show how well, in a general way, the causes of this disease were appreciated by our elders in psychiatry:

"The causes of mental alienation are as numerous as its forms are varied. They are general or special, physical or moral, primary or secondary, predisposing or exciting.

"Not only do climates, seasons, age, sex, temperament, profession and mode of life have an influence upon the frequency, character, duration, crises and treatment of insanity, but this malady is still modified by laws, civilization, morals and the political condition of people. It is

also produced by causes whose influence is more immediate and easily appreciated."

All that remains for us now is the nicer differentiations of the causes as given by Dr. Diller in the *brochure* before us.

THE DISORDERS OF SPEECH.—From the *Edinburg Medical Journal*, for November, 1891, we copy an article on this subject by John Wyllie, M. D., Lecturer on Medicine in the Edinburgh School, one of the Ordinary Physicians to the Royal Infirmary, Edinburgh. This is a continuation of an article begun in the October number of the *Journal*, in which, under the general heading, "The Functional Disorders of the Vocal Mechanism," he presented an exhaustive study, "On Stammering and on the Study of the Alphabet." The author now, under the same general heading, considers "Physiology of Whispering; Hysterical Aphonia; Hysterical Mutism; Other Forms of Functional Paralysis of the Abductors; Functional Spasms and Paralysis of the Abductors," in an exceedingly able and interesting article, which we commend to our readers, and regret that space will not permit of our abstracting it.

The author hopes at a future time to take up the consideration of the organic causes of vocal paralysis and spasm, and concludes with the following remarks:

"1. That functional paralysis and spasm have a much more favorable prognosis than their organic equivalents.

"2. That functional paralyses are usually bilateral, while the organic are in a larger number of instances unilateral (there are, as already said, exceptions to this rule, the toxic cases, especially, being occasionally unilateral).

"3. That paralysis of the abductors is much rarer than paralysis of the adductors. It is comparatively rare even as a result of organic disease and is specially rare as a result of functional causes."

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, of November 14th, 1891, contains two papers which were read before the section of Jurisprudence and Neurology, at Washington, D. C., May, 1891, and which are of no little interest to neurologists and railroad surgeons.

The first on "The Diagnosis of Traumatic Lesions in the Cerebro-Spinal Axis and the Detection of Malingering Referred to this Center," by B. A. Watson, A. M., M. D., of Jersey City, N. J., concludes with the following *resumé*:

"1. The term concussion, as used by those who first employed it, was erroneously defined, and unfortunately restricted in its application to the brain. These errors had their origin in a deficient knowledge of the pathological lesions engendered by concussive force.

"2. Concussion is a more or less violent shaking or agitation of various organs in the body, producing functional derangements dependent on vasomotor changes and well-defined pathological lesions.

"3. Concussion may be either general or special; general when several organs are involved at the same time, or special when the entire concussive force is expended on a single organ.

"4. The symptoms arising from concussion will chiefly depend on

the extent of the pathological lesions and the functions of the organs.

"5. The frequency with which concussion will occur in any particular organ will depend on the point to which the concussive force is applied, the relative weight of the organ, the character of its texture, and the protection afforded by its anatomical surroundings.

"6. The fifth statement supplies the explanation of the comparatively frequent occurrence of concussion of the brain, lungs, liver and kidneys to that of the spinal cord.

"7. Concussion of the brain and spinal cord is always attended with immediate symptoms.

"8. Concussion of the brain or spinal cord without immediate symptoms is a mere hypothesis—a myth—and has no real existence.

"9. There is no pathognomonic symptom of concussion in any organ of the body; but a thorough, systematic, methodical examination by a skilled surgeon will secure a correct diagnosis."

The other, "A Consideration of Traumatic Lesions of the Spine, Resulting from Railroad and Other Injuries—Their Etiology, Pathology and Diagnosis," by Thomas A. Manley, A. M., M. D., of New York City, closes with the following definite statements:

"1. That in the vast majority of cases in which complete paraplegia immediately sets in, after spinal injury, it may be assumed, with almost positive certainty, that the medulla-spinalis has sustained a palpable lesion of its integrity, which usually ends mortally.

"2. That there is no proof that mere concussive force will either simultaneously or consecutively ever lead to paralysis, without inducing well-marked and positive pathological changes in the anatomical elements of the cord.

"3. Physical force and the psychological effects of fright being the same in railroad as other injuries, there is nothing to justify the claim that there are grave lesions of the spine resulting from railroad collisions which are characteristic and peculiar.

"4. There being no proof of the existence of such diseases as anæmia or hyperæmia of the cord, as pathological entities, they are entitled to no place in the nomenclature of traumatic spinal diseases.

5. "Eccentric lesions of the back, without any implication of the cord, may, nevertheless, by pressure on the meninges, secondarily give rise to meningitis, local or general; also by infection, propagated inward, ultimately effect the medulla-spinalis. Those extrinsic injuries may, too, of themselves, by inducing pathological changes in the bones, cartilages, joints or muscles, occasion a permanent weakening or loss of power in the back.

"6. It should be constantly borne in mind that there are always essentially two different and distinct sets of pathological lesions which result from spinal injury, viz., those involving the cord, of rare occurrence and generally fatal, and those exterior to the spinal canal, very common, but seldom giving rise to serious impediment of function."

THE LOCATION OF BRAIN AREAS.—Clevenger, in the *American Practitioner*, July, 1891, describes a new cyrtometer for the location of brain

areas, and says the following facts should be remembered as likely to change the relationship of cranial and cerebral parts:

"1, Idiocy may grossly displace any part of the brain, usually throwing the sulcus of Rolando forward. 2, In the congenitally mentally defective, as with idiots, imbeciles, hebephreniacs, paranoiacs and other neurotic persons, the right sulcus may be farther backward than the left. 3, Normally, the left sulcus is farther back. 4, Compressing tumors or atrophy may change the convolutional positions. 5, The sulcus is farther back in the scale of intelligence. 6, The warmest portion of the upper back part of the scalp is usually over the Rolandic summit. 7, The 'tonsure' or earliest bald spot in this region is somewhat similarly placed. In lieu of the many complicated instruments described, the author designed a simple elastic rubber strap, which must always be stretched over the parts when used, and hence must be shorter than the head length. If the strap is ten inches long, marks can be made at three and five and one-half inches, to indicate respectively, the lowest point of the sulcus when the strap is stretched between glabella andinion around the side of the head, and the summit of the sulcus when stretched over the head between the same points. As a ten-inch strap is too long for many heads, one of eight or nine inches may be proportionally marked. A rubber cap, also smaller than the head, may have all the cerebral fissures and centers pictured in it, and when stretched over the skull the brain parts are represented over their approximate sites.

THE VALUE OF PSYCHICAL THERAPEUTICS.—From the leading editorial of the *Medical and Surgical Reporter*, of November 7th, 1891, we copy the following:

"In a paper entitled 'Psychical Therapeutics,' Dr. William B. Sprague, the retiring President of the Detroit Academy of Medicine, has called attention to the value of mental impression in the treatment of disease. While Dr. Sprague has only repeated what every physician of any experience knows to be true, still, his words are a timely reminder that in the hurry of a busy practice, or in the faithful performance of all the most modern means to arrive at scientific accuracy in diagnosis, we should not forget to use our personal influence for the good of the patient.

"It would seem that we are only beginning to appreciate how powerfully mental states affect bodily processes. Dr. G. Bassi has demonstrated fully that in animals dying of grief are commonly found hyperæmia, capillary hemorrhage and parenchymatous degeneration of the internal organs. Schule and others have found parenchymatous degeneration in persons dying of acute delirium. The theory held by Bassi is that the nervous disturbance affects the nutritive processes in such a manner as to cause the formation of poisonous ptomaines, which are mainly responsible for the fatty degeneration found in the internal organs; just as certain substances (such as phosphorus), affect the tissues.

"The mental medicines which Dr. Sprague refers to in his paper,

are not the so-called 'Christian Science' or 'Faith Cure,' or even hypnotism, but simply those which every physician can freely employ with greater or less effect, viz., a cheerful face, kindly sympathy and the adapting of one's self to the needs of each patient's mentality. Those doctors who have become famous for their skill in dealing with nervous diseases could, probably better than any other class of physicians, tell of the value of rightly directing the current of the patient's thoughts; and, we doubt not, largely owe their success to a *fine sympathetic mental constitution*, which enables them to understand each patient's need and apply the proper psychical remedy, so that hope, cheerfulness and courage may replace depression and worry.

"In the treatment of 'nervousness,' neurasthenia, hysteria and all functional nervous troubles, the mental impression made by the doctor is perhaps most valuable, but is no less grateful in all of the little daily ailments which often are routinely treated, when perhaps more good could be accomplished by an understanding kindness and appropriate sympathy. By such means we would occasionally discover that some deeply hidden grief or great disappointment had been the real cause of a previously unexplainable nervous affection. To deal properly with such cases requires experience and the utmost tact, and it should be the constant effort of every conscientious doctor to cultivate diligently all those qualities of mind which at times are more valuable in therapeutics than all the whole pharmacopœia."

The *Philadelphia Times-Register*, of December 12th, besides an excellent clinical contribution to Brain Surgery, by John B. Roberts, contains an intensely humorous editorial on the Reflex Club, which will be appreciated by readers of this journal.

The *Times and Register*, of January 2d, 1892, contains a comprehensive Clinical Lecture on "Nervous Dyspepsia," by James M. Auders, M. D., of Philadelphia; also a valuable article on "Common Neuroses," from Dr. Goodhart's Harveian Lecture.

Back Numbers Wanted.—The following numbers of the ALIENIST AND NEUROLOGIST are wanted:

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REVIEWS, BOOK NOTICES, ETC.

LIFE OF DOROTHEA LYNDE DIX. By Francis Tiffany. Houghton, Mifflin & Co., Boston and New York, 1890.

Dorothea Lynde Dix died at Trenton, New Jersey, July 17th, 1887, having known the labor and sorrow of more than fourscore years. Her biographer had no easy task in the work that he undertook. A life that should omit nothing of her work and at the same time bring out the striking lines of her individual character might impress us by its fidelity and yet not be altogether a pleasant picture such as we should wish to retain. It is required of one who truly writes the life of another, not alone that he portray the character and detail the work truthfully, but that he show us the purpose of that life—the devotion to something outside of self—that devotion which becomes the inner light, shining through and transfiguring it all. This we think Mr. Tiffany has done and that he fairly deserves to be congratulated on the result of his labors on the degree of success attained. Intimate friends of Miss Dix, a few only of whom still survive to read the life, will, we believe, pronounce the picture fairly correct and allow that it has been artistically drawn. This, too, while each one will miss something that belonged to the Miss Dix whom he or she had known. It is always so. No matter how excellent the work, we note a loss when author or artist essays to transfer to canvas or paper the features of the individual life with which we have been intimate. That Huntington should paint the portrait of Mrs. Hayes for the White House was a guarantee that it would be a work of art and beautiful in itself. Yet we shall, perhaps, agree that faithful as the likeness is, excellent howsoever as a picture it may be, there is still a something that is not there—that there was a grace akin to nobleness in that living woman's face which the painter has not rendered.

Mr. Tiffany, we understand, is a Unitarian clergyman of some eminence. But, while making no question that the good man's discourse is often edifying, probably he would admit that the life whose outline he has attempted is a better sermon than any of his pulpit efforts. For he has had no such text before; he is not likely to find its equal again. Just when the clamorous advocate of woman's rights is unsexing herself to prove her equality with the brute man; just when the soulless evolutionist is demonstrating from her inferior volume of brain, weighed by stupid avoirdupois balances, not sensitive enough to register the keenness of her wit, that woman can never be the equal of man—it is refreshing to find a life like this to confound their wisdom. For here was a woman removed as far as possible from what the world designates as "short-haired and strong-minded," who with instincts all womanly boldly led the way for all men to follow her. What a wonderful way it was! If we reckon greatness by achievement, she was

greater than Cleopatra—nay, judging her life only by the standard of results, we know not where to look for her equal among women. No, we do not forget Elizabeth Fry, Bible in hand, carrying the Quaker's "inner light," like the light of day, into the moral slums, the outer darkness of the English and Continental prisons. Yes, we remember Florence Nightingale tending the fever-cots of Scutari, the "Lady with a Lamp," to stand hereafter in history as the creator of an intelligent system of army nursing, a saviour to whom an army looked when it was dying—the only one to whom the Crimean War brought laurels that have not withered. Earth has known no nobler women than these—women whose lives will hereafter stand as symbols for devotion. But their work, estimating it only by its results, must be ranked second to that of their American Sister.

If this estimate of Miss Dix and her work among the insane seems to any extravagant, as doubtless it may, we must ask them to read Mr. Tiffany's book for themselves, familiarize themselves with her record, weigh the results and then pass their own verdict on her life.

According to her biographer, Miss Dix was born in Maine early in the present century. Mr. Tiffany even goes so far as to fix upon the 4th of April, 1802, as the date of her birth. The many friends of Miss Dix who first and last have engaged in a still hunt for her age, a search as baffling as it was ungallant, will hardly accept his conclusion as authoritative on this point. But what matter now the conflicting estimates of her age? Far more important is the picture of her child-life. We say the influences about childhood go so far towards the making of the future man or woman. But this woman had no childhood. We are fond of tracing the omnipotence of heredity in shaping the strong lines of character in the descendant. How this woman's life confounds all theories! It is probable that her parents were at best but indifferent specimens of the human family. It is certain that no allusion to them was heard to cross her lips in later years. Mr. Tiffany, apparently anxious for a peg on which to hang the doctrine of heredity in this case, finds a sturdy ancestor in her grandfather, Dr. Elijah Dix, whose energy was second only to his unpopularity. Some of the remarkable energy which characterized her life may have come from this ancestor, but is it necessary even in this materialistic age to claim that all which is best and noblest in man is inherited from the past? Was no new thought born into the world with Shakespeare? What is that something breathed into the individual man when he becomes "a living soul?"

A fatherless and motherless life, born before the winter was over and left neglected on the hills of Maine in the chilling air of the New England Puritanism in the early days of the century—why, it reminds of the suckling of Romulus and Remus. Even so characters and empires have been shaped ever since the world began. To this lone girl who says, "she never knew childhood," to whom, after her twelfth year, when the wolf-nursing of hunger was over, her grandmother Dix gave a shelter that Mr. Tiffany styles "a grim and joyless home," to this brave girl came the voice calling her to do for others, this time for her two brothers younger than herself. This call to do for others,

that came to her as the call came to Samuel when a child, was never thereafter wanting from her life. It was the "still small voice" calling in every crisis of her life that gave the key-note to all her work.

To support herself and her brothers she taught a school of little children at Worcester, Mass., Mr. Tiffany says, at the age of fourteen. Younger than that if his date of birth is right. They still keep at Worcester a little paper, the "Reward of Merit," of those days, with the date 1815 and the signature D. L. Dix, teacher. This little paper, yellow with time, it seems a page of her life, one of the leaves torn out where the childhood was missing. At the age of thirteen the child-woman was doing her work.

Of a later period, after the Worcester school was exchanged for the Boston one, Mr. Tiffany gives us a most interesting letter, in which she appeals to her grandmother to let her have the barn chamber for a school-room. She says, "You have read *Hannah More's Life*; you approve of her labors for the most degraded of England's paupers; why not, when it can be done without exposure or expense, let me rescue some of America's miserable children from vice and guilt?" Still, the call to that young life to do for others, this time not her own kin. It was the same voice that the Maid of Domremey heard and obeyed. She was already supporting herself and her brothers by teaching pupils in her grandmother's house, and here comes the call to teach God's out-cast children in a barn.

So, from the age of thirteen to twenty, the playtime of life to others, working day and night, teaching, writing text-books, bravely carrying her dependent ones—mother as well as brothers now—she went on without rest, not sparing herself until health gave way and a hemorrhage came. Physicians will tell you what that means. An invalid life avoiding unnecessary exertion, the change to a softer climate, some delusive hopes and steadily failing strength, by easy stages coming home and the white marble where the pathway ends.

Above the knell striking for her life she listening heard the call of duty still and the indomitable will triumphed over disease. There are martyrs who do not die, and with broken health, ever after an invalid, she went on for more than sixty years doing for others the work then but just begun.

There was a winter in the West Indies with the family of Rev. Wm. Ellery Channing, a return to teaching in Boston—a Spartan school, whose exacting ideals spared neither pupil nor teacher. In the spring of 1836 all hope of further teaching was abandoned and England was the milder climate sought. Hemorrhage followed hemorrhage and the end seemed near. But she had found kind friends among strangers and a tender, loving care, unlike any she had ever known before. Her health improved, the tides of life turned back and the winter of 1837-8 was passed in the vicinity of Washington, D. C. A letter written then shows that the long hovering between life and death, the looking over and beyond the river, the enforced rest, the memory of the dear absent ones in England—all these had left their impress on her thoughts, and it is plain to see that the heavenly rest lay nearer to her heart than the

earthly life. But the call to duty is still audible and her letter closes with this, "How can any fold the hands to rest and say to the spirit 'Take thine ease for all is well?'"

Her hands were never folded to rest thenceforward to the end. Her great work, the mission of her life, began in the spring of 1841, with her two years' inspection of the insane in the prisons and alms-houses of Massachusetts. The condition of the insane there was pitiable enough. They were turned over to the tender mercies of the alms-house keepers and men in general had forgotten that they were brothers. There was need there for woman's work—for a true woman like Miss Dix, to bring these poor forsaken ones face to face with the Legislature of Massachusetts and say: "Behold your brother and sister and mother!" Her memorial to that Legislature respecting the insane in the alms-houses of Massachusetts was a remarkable showing of their condition. It was sad in its details of neglect and wrong, sadder yet in the conclusive evidence afforded that in the hands of town officials this was the normal standard of care. There was a terrible realism about the document and when she turned from the narration of what she had seen to appeal to the "Men of Massachusetts," it was no mere woman's pleading for the necessary legislation: it was as if one of the old prophets had risen to speak of righteousness and judgment to come. Legislation for instant relief was the only answer possible to such appeal. A bill to provide at once additional hospital accommodations for two hundred insane was passed and the memorial had done its work. More than that, those two years of silent study of these object lessons in alms-houses had opened her own eyes to the magnitude of the work before her; a field that was the world, a mission to which she had been called wherever the insane were in chains and neglect. And being called, she went.

Then commenced the remarkable pilgrimage of that invalid woman—"the weak things of the world to confound the mighty"—a pilgrimage through the States, through the Canadas, through the world,—a pilgrimage of which she writes thus in 1845: "I have traveled more than ten thousand miles in the last three years; have visited eighteen State penitentiaries, three hundred county jails and houses of correction, more than five hundred alms-houses and other institutions, besides hospitals and houses of refuge." Sick, almost unto death, but never disheartened, journeying on—as Mr. Tiffany aptly puts it, "In journeyings often"—in the South and in the West, through new States, over rough ways and rivers swollen to torrents, rising superior to all obstacles and discouragements she went on for ten years in America. She made careful studies of the actual condition of the insane in each State and wrote stirring appeals to each legislature. Everywhere the need was urgent and the strange and moving power that she exercised over governors and legislatures was everywhere the same. So at last the pilgrimage came to be a triumphal procession in honor of the cause to which Miss Dix had dedicated the service of her life. Wonderful woman! at the magic of whose words hospitals sprang into existence everywhere, like that strange music heard,

While Illium like a mist grew into towers!

More than twenty hospitals for the insane in as many States and provinces created by her appeals are standing to-day to attest the completeness of her work, of her success, to parallel which you will search history in vain. She has changed the conditions of existence of a whole class of humanity's outcasts, substituting humane care for loathsome neglect of the pauper insane of a whole continent.

Her crowning work, perhaps, was the passage of a bill through both houses of Congress, a bill giving over twelve millions of acres of the public lands as a fund for the care of the insane in the United States. We hold this land vacant for the degenerate Indian, we give it away to the pauper emigrant, we squander it in railroad grants. Have the insane no claim here? Miss Dix believed that they had. She memorialized Congress, stating the facts, and their silent eloquence and her pleading, with such statesmen as Benton and Clayton and Badger prevailed. It was her life's supreme effort, health was giving way under the strain, but with the passage of that bill her work for the insane would be complete—then she might rest. Delayed but not lost, through two sessions of Congress at last the bill was passing, in the House by a vote of ninety-eight to eighty-four, and now in the Senate twenty-five to twelve. It had gone to the President. Letters to near friends at the supreme moment show the intensity of her feeling, show that the *Te Deum* was swelling in her heart, acknowledging the victory to Him whose servant she was, when Franklin Pierce vetoed the bill. It was a cruel, crushing blow, beneath which she sank, a blow that came near being fatal. Had she died then, history would have named her martyr and placed the halo on her hair. But it is not ours to die at the fortunate moment. We linger on to fade out in age when the mind has begun to lose its grasp, the hand to forget its cunning. There is no sadder fate than to live too long.

The ebbing life flowed back again; the call came from over the sea; to hear was to obey, and not doubting, she went. It was a noble work that she did there, in some respects a duplication of that done in America, but we have no time to follow further.

Yet she would hardly forgive us for omitting any mention of that work with which her later life was so intimately interwoven, that work in which she gave herself heart and soul to her country. With the breaking out of the civil war in 1861 there was a call for aid for the sick and wounded soldiers, and President Lincoln placed her in charge of the female nurses. She worked with all her old-time energy and determination. But age was on her, the work was new and unaccustomed, while the selfishness and rivalry of army men, things foreign to her nature gave trouble and made discords that she did not understand. In her unselfish devotion she accomplished much, but saddened and disappointed in more, she was right when she said, "This is not the work I would have my life judged by." Yet was it a noble devotion in no sense unworthy of her whose life had been an answer to humanity's call. And when the war was over and they would fain give her an ovation, she said, "No, give me only my country's flag." And Secretary

Stanton, with appropriate note of recognition of her services, sent a stand of colors which hang now in Harvard's Memorial Hall, memorial to her sons who died for their country. The dear old colors, the red, the white, the blue, in her journeyings among the sick and wounded boys in the hospitals she wore them on her dress as a decoration, aye, wore them as Mary of England wore Calais in her heart of hearts.

After the war was over there was a return to her life work for the insane. She went again to see the hospitals which her appeals had founded and she aided in erecting more. She went through the South, whose institutions had been impoverished by the war. Her old-time labors among them were remembered and everywhere they welcomed her as one come to counsel and to aid—it was *all* her country now. And on the far Pacific slope, where her fame had preceded her, her coming was an ovation. It could not fail to have been gratifying to have her life work so recognized; and from beyond those occidental shores—from far-off Japan, to hear of two hospitals for the insane that had sprung from her inspiration—all this was a fitting close, the departing rays of the sunset of a noble life.

The necessary limits of this paper leave no space for analysis—hardly any for reminiscence. The writer's acquaintance with Miss Dix was in later years, in the decadence of her powers, and the impressions then produced may have been misleading. She still showed as a remarkable woman—her bearing quiet and ladylike, her form very erect. Her features were large—a firm mouth, a straight-out-looking, steel-blue eye with something of sadness in it. Her hair was soft and fine, a beautiful brown and without a trace of gray. Her dress, while often old-time fashion but of rich material, was always black. Positive in her statements, she was often censorious, especially with the young. She did not attract young people to her. The superintendents of hospitals who did not know her stood a little in awe of her. So did their wives. Probably there was no superintendent's wife whom she did not instruct how to bring up her children in a way quite the opposite to that in which the poor mother was leading them. Mr. Tiffany quotes Dr. Ray as saying, "To have Miss Dix suddenly arrive at your hospital and find anything neglected or amiss was considerably worse than an earthquake. Not that she said anything on the spot, but one felt something ominous in the very air." This is as accurate as a photograph. She felt privileged to say what she pleased to superintendents and yet was very loyal to what she considered their good work. Mr. Tiffany relates from Dr. Kerlin that when he wished her to see the officers' quarters in his school she said, "Oh no, Doctor. I have never found any suffering among officers of an institution." Dr. Draper, whom she knew very well and also knew him to be quite firm in his opinions, relates that once as he was driving her towards his hospital she remarked of one of his tall chimneys that "she thought it leaned a little." "No," said the doctor, "I do not think it does." "No," said Miss Dix after a pause, "and if it did I do not think you would admit it." It took some time to divest yourself of the feeling that you was talking with Miss Dix and she did not help you to forget it. A slightly

uncomfortable feeling existed—a sensation such as I fancy I should feel in the presence of Abraham and Isaac and Jacob—distinguished individuals, and an honor to be in their society, but I should certainly wait for them to begin the conversation. This feeling wore off when you knew her better and great themes of talk were not necessary. Society topics she would have none of them, but on some natural object—a common wayside flower or a sweet child's prattle, she would converse freely and pleasantly. But I do not think any young maiden in later years ever came to her with confidence and interchange of secrets or love trysts, though what tender romance of early spring-time had been folded away with the rosemary in her heart no one knew. I do know, however, that after the war her thoughts for "the boys in blue" were always tender. Her Soldiers' Monument, at Hampton, Va., was a real labor of love with her.

A tender and pleasant trait of her whole life was her love for the hymns of all ages and all saints. They came to her with healing touch in times of weakness and sore distress. A volume of these given by her to the writer, with her favorite authors marked, shows the extent of her acquaintance with them and the correctness of her taste. I prize it much, but more I prize a Unitarian Hymnal given her by Mrs. Rathbone, who took her to her home and tended her back to life in Edinburgh, in 1836. Some of her favorites are marked and a pressed English daisy, folded away between the leaves, keeps the place of that grand old hymn,

"The Lord my pasture shall prepare."

The fly-leaves of the Hymnal are written over with hymns in her own hand. One that has much impressed me I shall venture to introduce here as being worthy of being wider known. I have not seen it elsewhere. Its date, 1837, associates it with that sweet rest in Edinburgh and her returning life. But for the initials given (H. M. R. T.) I should have supposed it her own. It is a lament for the earliest Christian hymn:

And when they had sung a hymn they went out into the Mount of Olives.

My heart has often longed to know
What was that parting strain
That broke the holy silence round,
But now we ask in vain.
What were those words of thrilling might,
Words that had then the power
To cheer the faint disciples' hearts
And soothe them in that hour?
Vainly a mortal hand would dare
To write the sacred word.
Disciple "loved," why did'st not thou
That parting hymn record?

The religious element in her life while unobtrusive was always marked. Her "Meditations for Private Hours," a devotional manual, passed through many editions. Her's was a devotion not ascetic but profound, a religion of every day and every hour, that wrought

As ever in the great Taskmaster's eye.

The falling, later years of her life, were to me inexpressibly sad. The house to be put in order that was beginning to crumble; the old war correspondence which she felt must be gone over, that saddened whenever taken up. The call of duty still and so little strength left to answer it! Her last journey was from the hospital at Washington, D. C., to that at Trenton, New Jersey. Both had come to be homes; both were institutions that she had created and both were dear. But she had left Washington intending to return, for she knew that the time for journeying was almost over, all save one, and since the war she longed to die under the flag. It was not to be. At Trenton she developed pneumonia and although she survived the attack she was never afterwards able to leave her room. She lived for five years longer, fading slowly away. Mr. Tiffany gives, in a letter from Mrs. Miller, a touching picture towards the end, when she felt that "even in bed she might still do something." At the close of May, 1887, the writer paid her a last visit. She received me with extended hand, reclining on a couch, but a glance showed me how little was left of her whom we had known. The voice was low and seemed changed. Uncertain if she knew me I spoke of the disappointment of not seeing her again at Washington, but ventured to express the hope that it was ordered for the best. On the instant she raised herself, the light came back in the eye and she said with the old energy and with the familiar voice that thrilled me, "We may be sure of that."

Yes, it was ordered right, even to that lingering, painful passing; and the curtain that was falling so heavily over that falling life, as it darkened the senses one by one, could not shut out the inner light that shone over her pathway to the end.

Six weeks later, at Mt. Auburn, the hands were folded behind the cypress and the voice that had called her for more than fourscore years was no longer heard. Or if she listened still, I think it was to words spoken once in the ages that are past—that will be said again when the ages are no more—"Inasmuch as ye have done it unto one of the least of these ye have done it unto Me."

CONTRIBUTION TO THE STUDY OF THE SCLEROSE OF THE BRAIN. By Ph. Chaslin (*Archives of Medicine*, 1891.)

Chaslin in 1889 called attention to certain changes of the nervous centers perceived amongst epileptics and to which he assigned the name of *Pure Neurological Sclerosis*. Since then, with three genuine epileptics, he has verified the following changes of the brain: *Macroscopiquement*, the convolutions, being in certain places hard to the touch, some rough and others smooth. Histologically, it is seen, that the convolution has kept its nearly habitual form and the gray substance has a breadth relatively normal, while on the contrary the white substance is very much narrowed; the most striking change is the transformation of that part of the convolution into a tissue formed of small fibers of the nerves (noyau) surrounded by little cellular bodies very difficult to see. These fibers are formed in a compact network which give birth in many places to veritable bundles, having the form of a

skelin of thread twisted on itself, or of a double tail or double face. Under this neurological superficial network are found some cells, of the neurological type of cells, called *epider cells*, which are crossed, as in the marrow by small fibers, more colored and more refractive than in the normal state, the nearer the surface this change is (to state the case more plainly) it is seen the cells lose their protoplasm, at the same time, the little fibers become more plentiful.

The nerve cells of the gray substance are uncommon enough, but the continuations are less apparent; at the same time the *noyau* appeared under some, from amongst which they separated from the protoplasm by a clear space. Amongst these lesions the capillaries appeared respectively; they are less numerous on the upper coat of the layer, where the fibrille tissue has taken a large development.

To resume, the lesion consists on the upper layer in an embryo state of the cerebral neurology which approaches that of the neuroglia of the marrow.

The proliferated tissue is constituted by the neuroglia and not of the connective tissue; Chaslin proved it by development of the processes of Malasez. MM. Dejerine and Letulle, Achard and others have confirmed this with him in other affections of the nervous system.

The lesion is entirely neurological and of the other part the veins or arteries remain untouched. Chaslin thinks *sclerose cerebrale* is not of inflammatory origin, but that it is organic lesion. He proposes to call it by the name of "Gliose."

Contrary to this non-inflammatory "sclerose," care has been taken to place the "sclerose" in plates of vascular origin; that is to say, inflammatory, general paralysis; as for the "sclerose cerebrale," the cause of infantile hemiplegy, the "sclerose medullaire," that of Jendrassik and Marie, Neichardiére, Osler, etc., Chaslin thinks that the first change is the lesion of the nervous cell, followed constantly by a vascular and interstitial reaction; with Strümpell he compares this process to that of the poliomyelitis infantile. He thinks, on the contrary, with Thibaut, Brissaud, etc., that "sclerose" tuberosa, or hypotrophiques, approaches nearer to the nature of the sclerose called *gliose*, and which he compares equally to other processes, atrophy for want of *functioning*, yet doubtful, atrophy by senile convolution. Still, in certain cases, the lesions are mixed, that is to say, they result from a superposition of an inflammation and a neurological proliferation not inflammatory.

CONTRIBUTIONS TO THE PATHOLOGY OF INFANTILE CEREBRAL PALSIES.

By B. Sachs, M. D., Professor of Mental and Nervous Diseases in the New York Polyclinic. Read before the New York Neurological Society, April 7th, 1891.

About a year ago the author read before the Academy of Medicine a paper prepared in conjunction with Dr. Peterson, on cerebral palsies of early life, based on an analysis of 140 cases, discussing at some length the clinical features of these palsies. This article treats of some of the pathological lesions to be found in these early infantile affections. This paper is based upon 205 cases.

The record of disease here to be discussed is somewhat rare, but

the author has seen an unusually large number. In private practice he has seen as many cases of *cerebral* as of *spinal* infantile palsies. Many of the cases are seen twenty and more years after the onset of the disease; in some, an epilepsy, with very slight hemiparesis; in others, hemiparesis, slight contractures, post-hemiplegic movements and exaggeration of the reflexes are the only symptoms that point to a cerebral affection of old standing. He has seen six cases of epilepsy which have passed through able hands and have been pronounced typical epilepsy, but which on closer examination have been found to be instances of epilepsy associated with early spastic cerebral palsy, both conditions being due to one and the same lesion.

Large orthopedic institutions, pauper asylums and homes for idiots are full of these patients. Dr. Townsend collected 730 cases due to spinal lesion and 77 spastic cases (say one to ten), mostly due to cerebral lesions. He finds the relative frequency of cerebral cases far greater than anyone would have expected it to be.

The records of the hospital for ruptured and crippled, show for the past year 143 spinal cases, with deformities of all sorts, and 91 of cerebral origin.

Hemorrhage, thrombosis and embolism were positively proved to be the most frequent lesions in the acute cerebral cases; other conditions so often cited were terminal and not initial morbid states. The author thus takes issue with Strümpell. It may be surprising to many that primary encephalitis is put at the very end of the table and with a question-mark at that. Strümpell's now famous theory has taken a wonderful hold upon the medical mind, and yet I must repeat what I said last year—that there is remarkably little proof of the existence of this condition. Reasoning by analogy, Strümpell concluded that a certain number of cases of acute infantile cerebral palsies were similar in every respect to cases of poliomyelitis anterior, except that the symptoms pointed distinctly to a cerebral and not a spinal trouble. It was natural, therefore, for him to maintain that the gray matter of the cortex was subject to the same changes that affect the gray matter of the spinal cord; hence, if we know of a condition of poliomyelitis anterior, why should there not be a condition of polio-encephalitis? There is no inherent reason why not, but proof is wanting.

SIMULATION OF HYSTERIA BY ORGANIC DISEASE OF THE NERVOUS SYSTEM. By Thomas Buzzard, M. D., Lond., Fellow of the Royal College of Physicians in London, etc., etc.

The author in his preface says his object is to draw attention to the frequency with which symptoms liable to be looked upon as hysterical are found to be really due to structural changes in the nervous system. To illustrate how apt this error is to occur the author contributes the results of experience extending over many years. He trusts that the discussion of the subject may tend in some measure to facilitate the diagnosis of certain obscure conditions and so render it less likely for patients affected with organic disease of the cerebro-spinal nervous system to be considered and treated as examples of hysteria or nerve prostration.

The work is entirely clinical in character. A considerable number of cases are narrated, including, in the majority of instances, their after-history, and much of the value of the book depends upon this feature.

The body of the book contains clinical confirmations of the author's position, and we are able to confirm the author's views from our own experience, especially in regard to disseminated sclerosis, the first illustration of which in our practice twelve years ago had a most tragic ending: the patient, a middle-aged lady, having been pronounced hysterical by good physicians, one of them a well-known teacher of clinical medicine at the time, terminated her life by sending a pistol ball through her head because of her family's skepticism concerning the reality of her disease, though she had the fixed pupils, impaired reflexes and intention tremors.

Much more clinical confirmation than the author before us offers of his position might be furnished. The title, however, seems to be illy chosen, for latent hysterical symptoms are rather brought out than simulated by organic disease.

The author concludes this little, but instructive book, as follows:

"It appears to me reasonable to conclude that many symptoms which have come to be considered characteristic of hysteria will, if examined by the light of improved knowledge and experience, be relegated to disseminated sclerosis. The figure of hysteria shrinks in proportion as the various forms of organic disease acquire greater solidity and sharper definition."

On page 29 is related an interesting case of Friedrich's disease, in which the only complaint made by the patient was of the characteristic club-foot, to which was attributed the difficulty in gait. The knee-jerks were absent. It may be well to mention this, as there is always the possibility of the disease being overlooked from the attention being directed to one prominent symptom.

On page 17 the author records a form of progressive muscular atrophy which commenced in the ilio-psoas muscle and further says the occurrence of localized want of power in the ilio-psoas muscle in more than one member of a family coincidentally, points rather distinctly to muscular atrophy as the cause of the incapacity.

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THE NEUROSES OF DEVELOPMENT. Being the Morrison Lectures for 1890. By T. S. Clouston, M. D., F. P. C. P. E., etc. With illustrations; Edinburgh; Oliver & Boyd, Tweeddale Court, 135 pages.

To those who are familiar with Dr. Clouston's work upon insanity, which is one of the most solid contributions to psychiatry, these lectures will be a genuine surprise, for his literary style is so entirely different from that displayed in his larger work. The book, from beginning to end, is a most delightful and fascinating production and is epigrammatic and terse, notwithstanding that the subject to most persons is an unusually dry one. The author's consideration of the physiology of development, the pathological conditions and the intermediate state—which may be vulgarly termed "the ragged edge of physiology"—

betrays a far-reaching knowledge of the puzzling conditions of childhood and adolescence, which are left untouched or clumsily discussed by most writers, but by Dr. Clouston carefully analyzed. Some of his statements, which are almost axiomatic, can hardly be forgotten by any one who has read the book. For example: "To understand in any way most pathological facts we must have some reference to the physiological functions of the organ affected. The periods of brain growth and that of non-reproduction do not absolutely correspond, but it may be held as a great law that when active cell-growth ceases in the cortex then only does reproductive function begin." He then goes on with the relation of reproduction to adolescence in the matter of development and points out that when reproductive function is attended by stimulation of the emotions and intellectual activity, it is expressed in vivid imagination and "earnest and volitional efforts at the same time and that it is in some cases disturbing the motor, sensory and trophic functions of the brain and we get to realize that it may be possible to take a larger, a more comprehensive and a more physiological view of the whole subject of brain growth and development in its combined physiological and pathological aspects." He groups together the relationship between the familiar physical defects of children and the diseases of early life in a most attractive and pains-taking manner.

Again we find the theory of intolerance in relation to non-development expressed in the law that "any tissue or organ that is abnormally non-resistive to disease may be fairly considered not to have attained maturity or to have undergone retrogression temporarily or permanent." In this connection he points out the fact that it is the higher nervous tissues and organs that attain maturity and perfection last. A careful estimate of the slowness of development after complete growth of the brain is demonstrated not only by the relation of increased bulk and the order of appearance of the different organs of intellectual function, but the influences of age and heredity are referred to at length. Our author draws upon his large number of cases seen at the Edinburgh Asylum and other institutions with which he is connected and presents many interesting data which illustrate the appearance of hereditary defects, and at the same time most practically calls attention to "the average ignorance which leads to the non-recognition of defects in weak-minded children." Not only are the familiar examples of children who are *rare aves* in the matter of mathematical accomplishments and musical talents, where there is an accompanying stupidity, referred to, but in his blunt Scotch way he speaks of "the exceptionally sweet face, fine expressive eyes, wonderfully good walking and a well-formed body. The face and eye of such an idiot tell lies when they thus express mind." "Nature," says he, "in fact, had practiced deception in these children. She had provided a perfect apparatus for expressing mind to the outer world where there was no mind behind to express, and what is more common than to find an anomaly in the production of a beautiful thing and a very mindless man or woman. Such a combination is just as much a developmental *lusus* as an idiot who speaks well, but the consequences are, alas, far more serious to the race in the one case than the

other, for the deception leads to love, marriage and many future generations of mindless beauties." Such children, he thinks, need watching, and should be looked on with much medical suspicion. His references to palatal measurement are full of interest, and he is inclined to consider a high-vaulted palate as a most important indication of congenital weak-mindedness.

To carefully follow the author through his very absorbing little book would lead to the use of much more space than can be here afforded, but I am sure that his consideration of this aspect of psychology is quite equal in originality of treatment to the work of Weissmann, Elmer or Darwin in their respective fields, and is a book of which all thinking men, as well as Dr. Clouston himself, may well be proud.

ALLEN McLANE HAMILTON, M. D.

HISTORY OF CIRCUMCISION, from the Earliest Times to the Present. Moral and Physical Reasons for its Performance, with a History of Eunuchism, Hermaphroditism, etc., and of the Different Operations Practiced upon the Prepuce. By P. C. Remondio, M. D., member of the American Medical Association, of the American Public Health Association, etc., etc.

This work is a plea for the universal practice of circumcision, and is a most exhaustive treatise on the subject from the stand-point of the surgeon whose business it is to cut. But the duty of the surgeon is likewise to conserve organs and normal tissue, and when eagerness to cut away and destroy transcends the teachings of conservatism, it becomes the duty of the reviewer to protest. We had hoped since Sayer has subsided on the subject to hear no more of this persistent and pestilent plea for the mutilation of the prepuce.

We do not consider the author's evolution argument for its excision a good one.

The argument based on consideration of cleanliness is also inadequate for the justification of the mutilation, because cleanliness can be accomplished by more rational and far less objectionable means, and as for the anti-contamination argument, it has not been proven that the circumcised, in proportion to their number, are less liable to contract syphilis by chancre of the penis, etc. There are some reasons for the retention of the prepuce, and the Almighty doubtless knew what He was about when He created the male of the *genus homo* with a foreskin. The glans penis is doubtless better with the foreskin intact than with it circumcised, and while the Hebraic rite may have been proper enough for the Jew in Moses' time in view of what he may have wished to accomplish by it in regard to his "peculiar" people, there are no good physiological reasons why man generally should be divested of his foreskin, the author to the contrary, notwithstanding. The site of the true solitary Hunterian chancre is as often found on the glans penis as elsewhere, though the surface of the foreskin which is exposed to contagion during coitus is much more extensive and is mostly in contact with the location and source of infection in the female.

There is chance for some future writer to discuss the physiological reason for the Jews being a singular and peculiar people, and perhaps circumcision may be found to have had something to do with the result.

The author presents his argument ably and his historical discussion of the subject is interesting. His surgical reasons for the operation in many cases are exceedingly good and he reasons generally with signal ability, but he has not, in our judgment, proved the assertion of Ricord that "the prepuce is a useless bit of flesh," or the author's broad assertion that "it is a dangerous appendage at any time, or that there should be a premium put on the circumcised generally and by insurance companies in particular."

We should like to know whether or not the author is a circumcised gentleman, since the reading of the argument of the book would suggest the possibility of the author having been deprived of his own prepuce and wishing to have the rest of the world like himself, like the entrapped tailless fox in the fable.

The book will well repay perusal whether you subscribe to or dissent from the writer's conclusions.

The editor of the *Cincinnati Lancet Clinic* seems to have had books like the one under consideration before him when he made the following observation:

"Each day brings forth some startling medical communication, so that we need not be surprised to hear of men advocating and seriously advising all sorts of wild fancies. Just when our nerves had become settled after the vigorous assaults of the gynecologists, we are called upon to hear one man advocate the removal of the prepuce wherever it may be found; while another has made the astounding discovery that most any food is better for the infant than mother's milk."

ADDRESSES, PAPERS AND DISCUSSIONS IN THE SECTION OF STATE MEDICINE at the Forty-Second Annual Meeting of the American Medical Association, at Washington, D. C., May 5th-8th, 1891.

This collection of papers, etc., is devoted to subjects of equal interest to the profession and laity. Notwithstanding the superior intelligence of man and the directions given him by the Creator Himself to conduce to his health, it is a lamentable fact that he falls into habits of neglect of necessary cleanliness, thereby bringing disease upon himself and the community in which he lives.

This, with the increasing density of our population, demands the solution of the question as to the best manner and method of disposing of the refuse of all kinds and at the same time have an abundance of wholesome water and a plentiful supply of pure air. These subjects are treated of in a number of able papers.

In a paper on "The Coroner System in the United States," by Henry O. Marcy, M. D., President A. M. A., we read: "The essential principles of the coroners' laws (except in Massachusetts, Connecticut and Rhode Island) are very similar in all the States, and it is a source of absolute wonder how such an absurd and valueless office for the detection of crime should have continued through all these years.

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"At the present time, in nearly all the States of the Union, the coroner's office is considered one of political preferment, and as such, is

subject to party politics, holding the office not seldom as a subsidy for supposed services rendered, rather than because of fitness to discharge duties of so great importance to the State."

In closing, he offers a number of propositions as a basis for the revision of the coroners' laws, claiming thereby much useless expenditure of time and money, often preventing sorrow and anxiety, and the ends of justice will be better served. They are:

- "1. To abolish the office of coroner.
- "2. To dispense with jury service.
- "3. To separate the medical from the legal duties in all cases involving the examination into the causes of death where crime is suspected.
- "4. To entrust the medical examination only to competent medical officers properly trained in their work.
- "5. To make the number of these medical officers as small as consistent with the proper discharge of their duties.
- "6. To consign all questions of law only to properly qualified legal magistrates.
- "7. To remove the appointment of these officers entirely from the question of political consideration; and to be based only upon their possession of the requisite and proper qualifications." D. S. B.

LEAD PARALYSIS. By S. G. Webber, M. D., Boston, Mass.

The author reports a number of cases successfully treated by the usual iodide method and gives an interesting history of this toxic neurosis. The following are the author's conclusions:

"The prognosis in these cases of lead paralysis, even when they seem very severe, is generally favorable to judge by these and similar cases. By a persistent use of iodide of potassium, with massage and electricity, even seemingly hopeless cases have improved or recovered. In a few cases, especially if not seen early enough, the termination is unfavorable. Serious cerebral symptoms are probably more unfavorable than the spinal and peripheral symptoms."

DISEASE OF THE MID-BRAIN REGION, with Special Reference to Ophthalmoplegia and a Note on Post-hemiplegic Ataxia. By B. Sachs, M. D., Professor of Mental and Nervous Diseases in the New York Polyclinic.

This paper was read at the meeting of the American Neurological Association, 1890, and is a valuable clinical study from a neurologist of no mean merit. In it the author analyzes a number of cases in which oculo-motor symptoms have played an important role, giving two autopsies which furnish proof of the value of those symptoms commonly supposed to indicate disease of the mid-brain region and several other cases that were subjected to careful clinical examination contributing to enforce the points he aims to make.

Within recent years the mid-brain region has acquired great clinical and practical value, from the anatomical and pathological studies especially of Westphal, Spitzka, Leube and Wernicke, who have

taught us to discriminate between the various subdivisions of the oculomotor nuclei and have given us anatomical explanations of the many and complicated phenomena in polioencephalitis superior (Wernicke) and in other conditions associated with ophthalmoplegia externa and interna.

The author in this *brochure*, among other things, aims to show that we should not be too ready to make the diagnosis of polioencephalitis superior wherever and whenever partial ophthalmoplegia (external and internal) constitute the main symptoms of the affection and gives a number of illustrative cases with *post-mortem* findings.

CONTRIBUTION A L'ETUDE DE LA SCLEROSE CEREBRALE. Par Ph. Chaslin, Médecin adjoint de l'Hospice de Bicêtre (Travail du Laboratoire D'Histologie du Collège de France). Extrait: Archives de Médecine Expérimentale et D'Anatomie Pathologique.

This is an exhaustive clinical study of this most interesting subject, beautifully illustrated in colors and with numerous references to the current literature of the subject. The author concludes with some new views regarding the neuroglia in this affection and gives a somewhat original classification of cerebral sclerosis. This valuable monograph will receive more extended notice in our next issue.

THE TEXAS SANITARIAN.—We have received Vol. I., No. 1, of the *Texas Sanitarian*, a journal of Preventive Medicine and Hygiene, published at Austin, Texas, by the Texas Sanitarian Publishing Company, and edited by T. J. Bennett, M. D., with the following associates: T. D. Wooten, M. D.; R. M. Swearingen, M. D.; T. J. McLaughlin, M. D. and W. A. Morris, M. D.

The aim of the journal is to discuss every subject embraced under the head of hygiene, giving special attention to personal hygiene and physical culture, as well as to study the effects of alcohol upon the human economy and its agency in the production of moral, physical and intellectual degeneracy. With such a scope and with so well-known and able a corps of editors, we bespeak for the journal a prosperous and useful career. We gladly give it a place on our exchange list.

D. S. B.

HOSPITAL BULLETIN.—We are in receipt of the first number of the *Hospital Bulletin of the Second Minnesota Hospital for the Insane*, edited by the hospital staff of medical officers of that institution and which contains original articles by Dr. R. W. Phelps, on "Paranoia," and Dr. N. M. Baker, on "Acute Delirious Mania." The latter does not make the distinction usual between acute delirious mania and delirium grave or Bell's disease.

The one being a grave adynamic disease; the other being acute delirium of a more dynamic type, and never so adynamic as delirium grave.

The publication aims to be rather a clinical record than a treatise on scientific psychiatry.

PRACTICAL POINTS IN THE MANAGEMENT OF SOME OF THE DISEASES OF CHILDREN. By I. N. Love, M. D., President American Medical Editors' Association (1890); President Pediatric Section of American Medical Association (1890); President Mississippi Valley Medical Association (1887), etc., St. Louis, Mo.

This little volume is touchingly dedicated to the author's deceased friend and preceptor, one of the most earnest, enthusiastic and honest workers that the American Medical Profession ever possessed, John T. Hedgen, whose life was a constant inspiration to others to work and win, whose every act pronounced him the unselfish friend of humanity.

This book is what those who know its author's trained experience, ability, and love of children might expect, a thoroughly practical and instructive treatise, filled with wise suggestions of clinical experience. The book is written in familiar essay style and is the plain talk of a teacher who loves his subject and deals with it with the enthusiasm of a devotee and the skill of a clinical *savant*.

SYMPATHETIC NERVE.—We acknowledge the receipt of copies of the "Sympathetic Nerve," presented by the enterprising firm of A. S. Aloe & Co., Manufacturers of Surgical Instruments, etc., St. Louis.

This plate of the sympathetic nerve is a three-quarter section, from base of the skull to the pelvic bone, life-size, prepared by Ludovic Hirschfeld, Sr., Professor of Anatomy and Surgery to the Medical Faculty, Paris, etc., etc., and colored from nature by J. B. Lévillé, of Paris, and is an accurate and artistic representation of the sympathetic nervous system and its communications with other nerves of the body, as well as of its anatomical relations.

Accompanying each plate is a pamphlet giving a concise anatomical and physiological description of the sympathetic system, together with an explanation of the plate.

The whole forms a complete and ready reference and will be found a handy and useful hanging for the office or library of the physician and student.

D. S. B.

ADDRESSES, PAPERS AND DISCUSSIONS IN THE SECTION OF ORAL AND DENTAL SURGERY, at the Forty-Second Annual Meeting of the American Medical Association, at Washington, D. C., May 5th-8th, 1891.

Although this is comparatively a new section, the present one closing the tenth year of its existence, it does not reveal its youth either in its workings or in the character of the papers presented; however, it deserves a more hearty support from the dental profession.

D. S. B.

A NEW JOURNAL.—We have received an announcement that Dr. Ferdinand King, until recently editor of the *International Journal of Surgery*, has severed his connection with that journal and will begin the publication of a new journal, *The Doctors' Weekly*. There is still room in journalistic ranks, as in an omnibus, for one more, and if Dr. King succeeds in making his new weekly a strong periodical, as his past editorial experience gives warrant for expecting, it will succeed.

DOCTOR'S WEEKLY.—The first and second numbers of this periodical edited and published by Ferdinand King, M. D., lie on our table and present a creditable and newswy appearance. We wish the new publication all the success the editor's previous experience as editor of the *International Journal of Surgery* deserves. Offices, 33-39 Gold Street, New York, U. S. A., where subscriptions and all communications relating to any department of the paper should be addressed.

THE MEDICAL FORTNIGHTLY, edited by Dr. J. B. Lewis, comes to us, and presents an attractive appearance in its novel dress and with *facsimiles* of its contributors' hands appended to their several articles. It starts with a good corps of collaborators and some excellent contributions from capable writers. The editor's energy, experience and ability, as well as the appearance of this new journal, promise success for it.

A B C OF THE SWEDISH SYSTEM OF EDUCATIONAL GYMNASTICS.—We acknowledge the receipt from F. A. Davis, Medical Publisher, Philadelphia, Pa., a book with the above title, by Hartvig Nissen, Price, 75c. We find this a practical and comprehensive work on the subject, well-fitted for school gymnastics.

Discours prononcé par M. Emile Karst, a la Fête Nationale de la République Française, du 14 Juillet, 1891, a St. Louis, Mo. This discourse by our distinguished and esteemed friend is a masterpiece of logic, rhetoric and history, which will be appreciated by lovers of liberty everywhere and especially by American freedmen.

Some Points in the Technique of Complicated Laparotomies and Remarks on the Causes of the Gradually Increasing Success of the Results Obtained. By A. C. Bernays, M. D., M. A., M. R. C. S., Eng., St. Louis, Mo.

Report of a Case of Spina Bifida, with Partial Motor and Sensory Paralysis of Both Extremities, Complete Paralysis of the Sphincters of the Bladder and Rectum, Double Equinovarus and Purulent Bursitis By H. Augustus Wilson, M. D., Philadelphia, Pa.

Poliomyelitis with Perineuritis. A clinical lecture, delivered at the Arapahoe County Hospital, October 17th, 1891. By J. T. Eskridge, M. D., Denver, Col.

Syphilis in Ancient and Pre-Historic Times. By F. Buret, M. D.; translated by A. H. Ohmann-Dumesnil, M. D.; published by F. A. Davis, Philadelphia.

Experiments and Researches on Trap Siphonage, Showing the Comparative Merits of the Principal Appliances Used for Trap-Seal Protection. By James M. Denton, M. E., Hoboken, N. J.

Scope of Orthopedics—The Forms of Club-Foot—Tenotomy. The Etiology of Club-Foot—The Treatment of Club-Foot—The Plaster-of-Paris Bandage. By H. Augustus Wilson, M. D., Philadelphia, Pa.

Proceedings of the Forty-fifth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane, held at Washington, D. C., April 28th, 29th, 30th, and May 1st, 1891.

A Case of Fracture of the Twelfth Dorsal Vertebra, Followed by Injury to the Spinal and Sympathetic Nerve-Supply of the Bowel in the Region of the Ileocaecal Valve. By J. T. Eskridge, M. D., Denver, Col.

Considerations upon Medical Hemorrhage Surgically Treated, with a Successful Case, by a New Technique of Saline Infusion for Severe Hemorrhage. By Robert H. M. Dawbarn, M. D., New York.

What Can Be Done in Cerebral Surgery? Remarks Based Chiefly upon Personal Experience in Twenty-three Cases. By Emory Lanphear, M. D., Ph. D., Kansas City, Mo.

Retro-peritoneal Tumors: Their Anatomical Relations, Pathology, Diagnosis and Treatment, with a Report of Cases. By Albert Vander Veer, M. D., Albany, N. Y.

Report of Cases of Cholecystotomy, with Special Reference to the the Treatment of Calculus Lodging in the Common Duct. By Albert Vander Veer, Albany, N. Y.

A Plea for the Extra-Peritoneal Treatment of the Stump in Abdominal Hysterectomy for Fibroids. By A. Laphorn Smith, B. A., M. D., M. R. C. S., E., F. O. S. L., Toronto.

Consumption: How to Prevent It, and How to Live with It. By N. S. Davis, Jr., A. M., M. D. Published by F. A. Davis, Philadelphia.

The Technique of Cerebral Surgery. By G. Wiley Broome, M. D., St. Louis.

A Contribution for Definite and Known Quantity and Quality in Mineral Waters. By George F. Hulbert, M. D., St. Louis. Mo.

Concealed Pregnancy: Its Relations to Abdominal Surgery. By Albert Vander Veer, M. D., Albany, N. Y.

Report on a Case of Hæmatophilia, or a Family of Bleeders. By A. Vander Veer, M. D., Albany, N. Y.

The Pathology of the Calisson Disease. By Howard Van Rensselaer, Ph. B., M. D., Albany, N. Y.

The Supposed Curative Effect of Operations *per se*. By J. William White, M. D., Philadelphia.

The Statistics and Lessons of Fifteen Hundred Cases of Refraction. By George M. Gould, M. D., Philadelphia.

The Climate of Southern California in Relation to Disease. By Wm. A. Edwards, M. D.

Abdominal and Pelvic Surgery. By Wm. H. Wathen, M. D., Louisville, Ky.

The Social and Medical Aspects of Insanity. By John Punton, M. D., Kansas City, Mo.

Tumors of the Naso-Pharynx, Pharynx, Larynx and Esophagus. By W. Cheatham, M. D., Louisville.

Epilepsia Procursiva. By John Ferguson, M. A., M. D., L. R. C. P., Toronto.

The Nerve-Supply of the Sense of Taste. By John^e Ferguson, M. A., M. D., L. R. C. P., Toronto.

The Aseptic Closure of Long Standing Sinuses Having their Origin in Tubercular Joints. By H. Augustus Wilson, M. D., Philadelphia, Pa.

Sarcoma of the Dorsio-Scapular Region; Operation; Recovery. By George N. Lowe, M. D., Randall, Kansas.

Paranoia—A Study of Some of the More Prominent Types, with Contribution of Three Cases. By Wm. P. Spratling, M. D., New York.

A Vegetable Plate: also a New Technique in Intestinal Anastomosis. By Robert H. M. Dawbarn, M. D., New York.

Infantile Spastic Paraplegia. By John Ferguson, M. A., M. D., Tor. L. R. C. P. Edin., Toronto.

The Treatment of Uræmic Coma and Convulsions. By John Ferguson, M. A., M. D., L. R. C. P., Toronto.

Nerve Degeneration in Chronic Arsenic, Lead and Alcoholic Poisoning. By John Ferguson, M. A., M. D., L. R. C. P., Toronto.

The Dietetic Treatment of Epilepsy. By John Ferguson, M. A., M. D., S. R. C. P., L. F. P. S., Toronto.

Mechanical Massage. By B. D. Eastman, M. D.

The Surgery of the Spine. By J. William White, M. D.

Tubercular Peritonitis. By A. Vander Veer, M. D., Albany, N. Y.

The Outlines of Insanity. By Henry Hun, M. D., Albany, N. Y.

La Grippe, Origin, History, Treatment. Gayle.

The Possibilities of Medicine. By T. Gaillard Thomas, M. D.

Electricity in Carcinoma. By Robert Newman, M. D., New York.

Trichina spiralis. By H. M. Whelpley, M. D., St. Louis, Mo.

Tumor of the Brain. By J. T. Eskridge, M. D., Denver, Col.

Hallucinations in the Insane. By Edward B. Lane, M. D., Boston.

Multiple Cerebro-Spinal Syphilis. By B. Sachs, M. D., New York.

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NO. 2.

ORIGINAL CONTRIBUTIONS.

**Surgical Cure of Mental Maladies—
Résumé.***

By DR. GUISEPPE SEPPILLI.

I.

SHAW was the first to apply cerebral surgery to the treatment of mental diseases, directing his attention to general paralysis, against which, until the present time, every remedy has proved unavailing. The idea of the operation is exactly analogous to that which has proved itself useful in the treatment of locomotor ataxia, viz., nervous extension. In the course of progressive paralysis, and especially in its later stages, there is produced in the cranium an excess of cerebro-spinal fluid, which gives rise to the phenomena of cerebral compression (paralysis, stupor, dysphagia, etc.) This admitted, practising trephining favors the exit of the fluid and thus permits the brain to expand and the circulation to be accomplished more easily.

Guided by these considerations, as well as by the fact that the operation was comparatively harmless, provided it

* Translated by SUSANNA P. BOYLE, M. D., C. M., Demonstrator of Anatomy and Assistant in Histology, Toronto Woman's Medical College; Assistant Physician to the Girls' Home.

were done with rigorous antiseptic precautions, Shaw prepared to trephine the skull of a man who had been received into the hospital nine months before and who was the victim of mental excitement with hallucinations of grandeur, with difficulty of articulation and in walking, and who was subject from time to time to convulsive attacks with brief periods of loss of sensibility, especially in the limbs of the left side. The trephining was done on the right side of the head, over the fissure of Rolando, two inches external to the longitudinal sinus and a hole was made, measuring one inch and one-fourth in length and three-fourths of an inch in breadth, from which a considerable quantity of subarachnoid fluid issued. Three months after the operation Dr. Shaw reported that his patient was much improved, the physico-mental disturbances having disappeared altogether, as had also the convulsive attacks.

A second case of trephining in general paralysis was described by Harrison Cripps, who performed it on the 27th of January, 1890, on a railroad conductor, who, in consequence of an injury which he had received a year before, on the left side of the head, presented evident symptoms of general paralysis, psycho-sensorial disturbances, alterations in speech, ataxia and intense headache at the seat of the injury. After the operation the patient presented a notable improvement in his psychical condition.

A third case of general paralysis in which trephining was practised was reported by Wagner, of Utica. The patient was a man 32 years of age, a paralytic, who, on the 14th of March, 1890, had been seized by a convulsion of the left side and vomiting, followed by paralysis and profound coma. He was operated on two days afterwards. About two months passed, during which he showed a sensible amelioration, when another attack supervened, which in a few days proved fatal. On *post-mortem* examination a general chronic pachymeningitis was found, with an accumulation of pus in the right hemisphere. Wagner believes that in this case the operation was of benefit tem-

porarily, as it prolonged life by about two months. In a note at the end of his work he reports that Shaw's patient remained well for six months after the operation, but on the 14th of February, 1890, had a convulsive attack and died in the course of a few days.

After the exposition of these few cases of general paralysis in which recourse was had to surgical treatment, we ask if surgical interference can be recommended in progressive paralysis? The solution of this problem must be based on two factors, viz., the results obtained by experience and, above all, on pathological anatomy. But the number of cases is so limited that one cannot draw from them any conclusions concerning the therapeutic value of the operation. The results, however, do not appear very encouraging when one considers that out of three persons operated on, two died from paralytic attacks a few months after the operation, and that the effects immediately following the operation were limited to a simple amelioration of the morbid phenomena. Taking into consideration, then, the pathological anatomy of general paralysis, one cannot see of what benefit surgical treatment would be. Shaw advises trephining as a means of diminishing intracranial pressure, but in our opinion it is doubtful if this is really obtained, and if obtained, whether it persists for a time sufficient to verify any advantage; while, considering that the paralytic attacks are ordinarily the consequence of a congestive state of the brain, we hold that it is preferable to employ such means as are already in use to combat cerebral congestion (leeches to the mastoid process, ice bags to the head, etc.)

II.

At the International Medical Congress, held at Berlin in 1890, Burckhardt communicated the results of excision of the cerebral cortex as a contribution to the operative therapeutics of the psychoses. This treatment cannot be reconciled with the opinion of those who hold that the psychoses represent a diffuse malady of the cortex and

believe in the essential unity of the *psyche*. But instead we must adopt another point of view, viz., that our psychological life is composed of different elements which are separate in the brain, but can be brought into the most diverse relations with each other by means of paths of association. The clinical history of affections of speech shows the existence of different groups of cells which preside over the memory of the diverse elements of language. This functional division may be met with as well in sensation, in voluntary acts and in other manifestations of psychological life. From analogy, then, a psychosis may be considered not as a diffuse malady of the cortex, but as the result of a focal lesion which has attacked a greater or less number of territories of the cerebral cortex differing, according to the cases, in the points of departure and extension. So it may be comprehended that different hallucinations may exist contemporaneously or successively.

On these grounds Burckhardt decided to excise small portions of the cerebral cortex which he considered as the starting points of the psychological disorders, and thus to destroy the fibers of association, whose existence is held by him to be the conditional cause of the pathological manifestations.

We shall here give shortly a report of the six cases operated on by Burckhardt:

I.—A woman, 53 years of age, afflicted with dementia agitata for sixteen years, with violent paroxysms, dangerous impulses and sensorial disturbances. The author proposed to render the patient a "demente tranquilla;" and starting out with the idea that the affective states are cortical processes which are transformed into movements in the motor cortical area, and which in the case in question were provoked by stimulation of the sensory region of the cortex, decided to remove a part of the parietal lobe. He made four cortical excisions in a period of three years. At one of the operations he removed also a piece of Broca's convolution, to combat verbigeration. After these operative procedures the patient became calm and docile.

II.—A man, 31 years of age. Primary dementia developed acutely eight years ago with violent paroxysms and dangerous tendencies. There were acoustic verbal hallucinations. The object of the operator was to interrupt or obstruct the connections between the stimulating cerebral region and that which receives the excitation. He did not try to restore the intelligence, but to hinder the morbid tendencies. The author determined to operate between the central convolutions and the left frontal region, excising the cortex from F^1 to F^2 (the patient turned his eyes and head frequently towards the left).

The result of the experiment was favorable, as there was a cessation of the paroxysms.

III.—Man, 23 years of age, affected with chronic paranoia, with acoustic verbal hallucinations which gave place to a permanent excitement. The author in this case proposed to destroy the cortical area of acoustic hallucinations. Partial removal of the cortex from T^1 to T^2 left side.

The result of the operation was that the patient, who had been dangerous and violent towards his imaginary persecutors, became gentle and industrious.

IV.—Woman, 37 years old, afflicted with dementia agitata, with persistent acoustic hallucinations consequent on an acute paranoia. Similar operation to preceding case. The hallucinations diminished in frequency and duration.

V.—Man, 27 years of age, with primary paranoia which has become chronic, with predominant acoustic hallucinations; consecutive dementia. Excision of the cortex of the left temporal lobe. The hallucinations became less intense and less persistent. At a second operation a partial excision of Broca's convolution was performed with a view to combating the loquacity of the patient, and the desired result was obtained without causing, even transitorily, any aphasia.

VI.—Man, 33 years of age. Primary paranoia with intense auditory hallucinations and dangerous tendencies. Cortical excision of the left, T^1 to T^2 . The patient attacked by verbal deafness. The hallucinations disappeared. The fourth day after the operation, convulsions came on. Death on the sixth day, from general paralysis of the cerebral vessels.

These attempts of Burckhardt to apply cerebral surgery to the cure of the psychoses do not in our opinion deserve to be imitated. Above all, his choice of cases was not a happy one, as they consisted of paranoic and demented subjects in whom he wished to combat emotional and impulsive elements (Cases I. and II.) or to hinder the production of acoustic hallucinations (Cases III.—VI.) Now this does not seem sufficient to justify surgical interference. And then, admitting that, in a given case there exists an abnormal condition of the sensorial centers of the cortex, what criterion do we possess for establishing the point of origin of a fixed hallucination in the wide field of the acoustic and visual zones? And if it be impossible to determine the seat, what is the object of operating? In fact, in Burckhardt's cases, amelioration only of the symptoms is spoken of and never a disappearance of the morbid phenomena, for the cure of which the operation was performed. Candidly, we believe that as physiological anatomy does not furnish data which conduce to formulate a diagnosis of the nature and seat of mental diseases, it would be illogical to think of surgical treatment in psychoses.

III.

Recently Lannelongue practised craniotomy in cases of microcephalia, on the principle that microcephalia is frequently the result of premature ossification of the sutures, whereby the development of the brain is arrested. Also other morbid conditions which may attack the infantile brain, form an indication for craniotomy; for instance, pachymeningitis following hæmatomata and encephalitis, both of which produce such a retardation in the cerebral evolution that idiocy may be the result. A study of the patient and an exact diagnosis of the nature and seat of the malady are the fundamental factors on which is based the performing or the rejecting of the operation.

Lannelongue describes two methods of operation, the

one linear, the other by flaps. The linear method is most applicable when the operation is near the frontal sinus and the cut may be prolonged across the coronal suture into the frontal bone. Unless there are special indications Lannelongue finds the flap operation the easier. According to circumstances, the incision may have different forms and involve one or more regions of the cranium.

Craniotomy was practised in twenty-five cases, thirteen males and twelve females. The youngest patient was eight months old and the oldest twelve and a half years. Only one of those operated on died and all the rest recovered from the operation within an average period of ten days. Lannelongue asserts that he possesses documents which allow him to say that the greater part of his patients show a sensible improvement.

After Lannelongue, Wyelt practised craniotomy with a favorable result in a microcephalic child eleven months of age, in whom a diagnosis of premature ossification of the skull had been made. Horsley performed the operation in two microcephalic subjects, the one three and the other seven years of age, whose aspect was idiotic. In the first case there was an improvement, but in the second the child died after the operation.

Very interesting is the following case described by Ransohoff:

The subject was a child three years and six months of age, an imbecile. The mother affirmed that the anterior fontanelle closed a short time after birth. The child is well formed, but has a small sugar-loaf-shaped head, the sagittal suture presents a raised margin on the right side of the cranium. The cranial measurements were as follows:

Bi-frontal diameter	-	-	-	3 inches.
Bi-parietal	-	-	-	4 $\frac{1}{2}$ "
Occipito-frontal	-	-	-	6 "
Occipito-supra-orbital curve	-	-	-	10 "

The child could not walk nor stand, nor had it ever given any sign of recognizing its mother or any other

person. It could not speak, swallowed with difficulty and moved the left arm more rarely than the right. Ransohoff performed Lannelongue's operation, making an incision to the right of the median line, removing a strip of bone three-eighths of an inch wide and $5\frac{1}{2}$ inches long. The result of the operation was favorable and after three months and a-half the child showed a notable improvement, both mentally and physically. It followed with its eyes the person and objects it saw, delighted to look at picture-books, recognized the nurse, seemed interested in its surroundings, had no difficulty in swallowing and moved its arms well.

Journalism has been much occupied of late with the successful results obtained by Lannelongue. We hope that the results may be such as to attain the principal aim of surgical treatment, which, we say with Lannelongue, is that of causing to enter into every-day life individuals destined to a most miserable existence, intellectually and morally as well as physically.

Some Principles Involved in the Nature and Treatment of Inebriety.

By T. L. WRIGHT, M. D., Bellefontaine, Ohio.

IT is a fact—fundamental in considering the proper means of dealing with inebriety—that the peculiar disease, state or condition bearing that name, is one of the forms through which the neurotic constitution declares itself. This constitution is one : its manifestations are manifold. It assumes a variety of physical and mental aspects, bearing many and different appellations.

But being *one* at the root, the branches, differing as they may in many sensible properties, yet preserve a certain unity in their specific nature. Their appearances and functions evince mutual relationship, just as the characteristics of a family strain are related ; and impressions made upon one of them awaken movements denoting a common kinship and sympathy among them.

The neurotic constitution is always one of morbid irritability ; that is, it displays the peculiar excitement of nervous exhaustion. But nervous exhaustion is, like all exhaustion, susceptible to untoward influences by reason of weakness and inability to resist or resent. In hysteria particularly (and to some degree in every form of neurotic display) there is a constitutional readiness amounting almost to an anxiety, to fall in line with suggestion. The impressibility is excessive, and the patient submits to the influence of environment and to the domineering will of others, without the power to inquire or object.

In this category we have the phenomena usually classed as mesmerism, magnetism, hypnotism and so on. These facts being admitted, it is not difficult to perceive how a suggestion—as for instance, of a sure and absolute cure for inebriety, may operate conclusively upon the

belief. The patient is positive that the suggested cure is real, and it may possibly happen that the impression will endure long enough to tide the drunkard over one or more periods when the dipsomaniacal cravings are likely to be of great urgency. In this manner, no doubt, the desire for intoxication may for a time give place by substitution, to some other and less aggressive neurotic form. Treatment by offering a *placebo* to the impressible imagination, is far from uncommon in nervous diseases and it is often of great temporary advantage.

2. It is obvious that in the treatment of inebriety the most delicate touch should be applied to the strained, irritable and exhausted nervous system. The exciting cause of the inebriate form of the neurotic display should receive the nicest attention. The reasons why the form of the neurotic malady is that of inebriety rather than hysteria, epilepsy, etc., should be considered and determined. The inquiries in this direction are necessarily wide in range and subtle in their nature. The inebriate diathesis comes from so many and so remote and so recondite sources, that its specific genesis is often obscure and sometimes is impenetrable. It is besides, subject to such strange laws that it seems to be lawless—indeed lawlessness itself appears often to be its most constant rule. One day there is inebriety; another, and we have the neurotic form—amnesia, or epilepsy, or insanity. To fix the exact nature of the inebriate diathesis and point out its exact remedy, is frequently an absolute impossibility. But amid all this uncertainty there shines forth one self-evident proposition. It is this: whatever will remove—will cure—that peculiar constitutional lapse or imperfection, upon which the inebriate propensity is founded, will cure that neurotic constitution which is the source of epilepsy, hysteria and insanity.

What then, shall be thought of a very considerable number of men who profess, by virtue of a single prescription, to destroy forever the protean disease, inebriety?

A drug is hypodermically injected into the system.

The composition of the medicine is kept secret. It is well known however, that the main ingredient said to enter into the prescription is not there. *Falsus in uno, falsus in omnibus.*

But the important thing to consider is the effect of the medicine upon the constitution. This is not always the same in different individuals. A common effect of the alleged remedy is to *break down* the already depraved constitution—not amend or strengthen it. Tastes, appetites, proclivities—whether natural or acquired, are destroyed or greatly impaired. The undesirable habits may be weakened, it is true, but the natural and conservative powers of the organism likewise, often are abated, if not utterly ruined. The pretense that the “treatment” stops at, and its influence is circumscribed by the simple appetite for drunkenness, is a self-evident fraud.

If the breaking down of the constitution is only partially accomplished by this treatment, the desire for drinking will return as the system becomes toned up by time. The natural instincts and functions of the organism will likewise improve on a parallel line.

It is claimed that the propensity for alcoholic liquors—should it return at all—will be in the measure of the same desire during its mild and formative stage in early youth. However this may be, it is a fact that those who return to their cups, are apt to drink to the death, either because they drink harder and deeper than before, or because the constitution, having been practically ruined, the alcoholic poison will more speedily kill. How many persons have perished from drink after they have been cured by the new method, will never be known. The more conspicuous cases only, are published. But the melancholy, the disabled, the dead, are beginning to appear in numbers—

Thick as autumnal leaves that strow the brooks
In Vallombrosa, where th' Etrurian shades
High overarched embower.

There is a tendency most vicious in its nature that is

being developed in some quarters, to treat drunkenness from alcohol, by the substitution of drunkenness from cocaine, morphia, haschish, etc. And thus,

With hideous ruin and combustion

The unhappy inebriate is hurled down to sure destruction.

3. In discussing the principles that should be observed in the treatment of inebriety, there are certain facts to be carefully noted.

Conditions adverse to the existence of the inebriate proclivity may become established by means of treatment; and as a consequence, that proclivity may disappear. But it does not necessarily follow that inebriety is, in every such instance, absolutely *cured*. There may be established a movement of substitution among neurotic forms, which is a condition quite short of cure. There is nothing new or strange in this. Something analogous has always been a matter of religious faith. The doctrine of the *metempsychosis* is as old as the history of the human race. Millions of men and women to-day believe in the transmigration of souls. And the soul, though it may be dormant, is thought never to perish utterly--in the sense of annihilation: there being simply physical and mental transformation--metamorphosis. In a manner similar, it may happen in neurotic manifestations. When the conditions essential to the display of one form are destroyed, another form assumes its place; yet it is true the malady is always ready to resume the features of the original constitutional *bent* upon the return of favoring circumstances.

In accomplishing these results, the physician simply and alone, is sufficient and capable. But it must be remembered, as already intimated, that the neurotic constitution is older and stronger than its manifestations. There must be a *condition precedent* in the human economy, before a neurotic form becomes possible, and this predisposition is always constitutional. It is something which belongs, not to individuals simply, but in strictness it

belongs to families, tribes and nations. To develop the neurotic constitution usually requires time—generations, and even ages.

To treat this phase of inebriety successfully is, therefore, entirely beyond the capacity of any individual. Life is too short.

It is a function pertaining to the State—the Government itself—to furnish data and statistics for the rational study and treatment of most of the constitutional maladies and tendencies. These maladies move slowly; and the observations and energies of many successive inquirers are necessary to their complete elucidation.

Under circumstances such as these, a national Bureau of Medicine would be of great advantage. For investigations would not there be liable to interruption, either through the death or neglect of individuals.

The neurotic constitution being present however, any persistent and distressing nerve disturbance may develop inebriety—asindeed it may epilepsy, hysteria, etc. It is obvious that to cure inebriety, the cause of the nervous unrest, must be discovered and removed. This implies a possible resort to the whole array of therapeutical appliances—material, mental and moral. In one case, a particular course of treatment will be necessary. In other cases, something quite different may be required. If the skull is depressed by a wound, it should be elevated. Should there be a tapeworm, it must be removed. If any local disease simulates some irritation, as of a foreign substance, or wound, the special cause, nature and treatment of the local trouble, should receive attention. In many instances the irritant is beyond the reach of special treatment; and in cases of this kind, the strengthening and building up of the constitution, afford the indications of treatment, in order to enable the system to better resist the assaults of morbid influences.

4. Every alienist of repute has had occasion to report cases of apparent cure and relapse, amongst the insane. Seeming recoveries have been observed many times in the

same individual. These may be regarded as, very often, instances of substitution—of transformation of one neurotic form for another. Through treatment and the breaking up of old associations, the conditions essential to the display of the insane form, have been disturbed and some other neurosis, less obvious, has taken its place. Nothing is more common, and at the same time more deceptive, than the automatic life—the life by rote—that accompanies certain forms of trance and amnesia. The apparent cure may be no doubt not infrequently, a substitution of automatism for insanity.

The delightful stories and fables of by-gone ages, treating of metamorphosis in forms and in qualities amongst the higher order of intelligences, are, it seems to me, the counterparts of the ever-changing, elusive features of human life. Actæon and Diana, Apollo and Daphne, and all the magic procession so beautifully portrayed by Ovid and other ancient poets, are allegories that represent, in the dreamy and purple distances of a world long passed away—the changes and transmutations incident to the nature of mankind.

5. In illustration of several points discussed in this paper, I will relate a striking incident that is authentic in every particular.

In a certain city there lived, upon a time, a clergyman, by no means obscure, who was an inebriate. This man joined the "Murphy movement" in the year 1886. He lectured eloquently in the cause of temperance; and his efforts were mentioned and praised in a metropolitan daily paper. A few weeks later, the same journal contained a contemptuous notice and description of the lapse of the gentleman, into drunkenness. "The Rev. B—— in the gutter again," said the paper. He was sent to the work-house covered with ignominy and contempt. A prominent minister of the city, joined with two deacons, warned the religious public against his pretensions, religious or clerical, through the public press. This all appeared in the daily paper in October, 1886.

And now comes a blank of five years.

One morn I miss'd him on th'accustomed hill
Along the heath and near his fav'rite tree;
Another came; nor yet beside the rill,
Nor up the lawn, nor at the wood was he.

At length and for the last time we see him. It is on the 7th of October, 1891. Five years have come and gone. The scene is within the precincts of an asylum for the insane. An *autopsia* is in progress. The dead body is that of our friend, the Rev. B——. All the commonly recognized means for reforming the inebriate have been faithfully applied. He was "made infamous" by professing Christians. He had been "punished as a criminal" by the tribunals of law; while the moral and orderly citizens had assiduously pocketed the license money paid into their hands for the privilege of selling liquor to the everend gentleman.

A leaden bullet, weighing one and one-half ounces, was found imbedded in one of the lungs of the dead man. It had plowed its way there while the minister—once a soldier—was bravely fighting the battles of his country. The source of the inebriety of this man could never be removed through the efficacy of any prescription.

ART IN THE INSANE.*

By JAS. G. KIERNAN, M. D., Chicago,

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ART was an early acquirement of the race. At the time when the cave-dwellers of the Dordogne appeared, art had passed beyond the arabesques and geometric figures of its primeval stage.

These arabesques and geometric forms arose from the figures produced by chipping stone in the late palæolithic age. This phase of art long persisted since, as Sir John Lubbock† has shown, the weapons and utensils of the bronze age are characterized by this style of ornamentation and are usually destitute of human or animal figures. Nor is such persistence surprising. Children and savages, from their tendency to analogies, quickly find the occult in the real. Fetichitic canons of art thus arose and compelled the artist to follow certain lines. To these lines special significance was attached by fetich priests and means of intercommunication between them thus resulted. The power of mechanical motor symbolism is much more frequent than the faculty of imagination, penetrative, associative and contemplative, as Ruskin‡ not inaptly divides it, that operation of the mind by which, as Feuchtersleben§ states:

It receives, retains, recalls and combines the ideal images furnished to it by the cœnæsthesia and by the senses, for all these actions are manifestly links of one chain. At the first step, this operation is called the faculty of conception; at the second, memory; at the third, reproductive fancy, and at the fourth, productive fancy. In this last, the imagination rises to that sphere where it appears as productive or creative, and which is called, in the stricter sense of the term, fancy and in

* Read before the Chicago Academy of Medicine, April 10th, 1892.

† "Prehistoric Times."

‡ "Modern Painters."

§ ALIENIST AND NEUROLOGIST, January, 1892.

its spontaneity, poetic power. Fancy deceives us when it claims an absolutely productive or creative power. This power is conditional and cannot exist without matter from the store of the imagination in the first place. Fancy only fashions this matter, which is always more than merely putting it together (the eyes of Juno, nose of Apollo, brow of Minerva and smile of Venus would produce an absurdity, not a masterpiece of fancy). Fancy is, therefore, productive in the form. Fancy is most peculiarly that which distinguishes the individual. In this sense, we are also to seek in the fancy for the foundation of peculiar talent; nay, even with respect to the arts, even of genius. Fancy harmonizes all the higher energies, thought and will with sensation and all the inferior energies with thought. It harmonizes all sensations and conceptions with each other. These harmonizing qualities of fancy constitute it the nurse of the intellectual as the vegetative power of the mind, for as the humorous Hippell not inaptly says: "Everyone is mentally weak whose powers of imagination are weak, for fancy is the lung of the mind."

The symbolic motor expression being most frequent, and geometric and arabesque forms being like 'Traddles' "skeletons," easily drawn, the fetichitic canons of art already mentioned, controlled in no small degree the evolution of art. Nor was this fetichism destitute of advantages. Symbolism, because of occult significance, became the basis of an alphabet. The occult significance attached to arabesques and geometric enforced their use in art. Such tendency to their use aided and was aided by the development of letters from picture-writing. Tylor* points out that:

The rude pictorial art—not ruder on the graven ivory of the troglodytes of the Madelaine cave than on many a hieroglyphic drawing of the catacombs of Egypt—employed in picture-writing, passes by a natural and inevitable transition from the literal representation of objects to the symbolic suggestion of ideas to a word alphabet and then to pure phonetic signs.

This is excellently illustrated in the comparative tables of alphabets given by Donnelly.† Excessive reiteration of an idea is necessary to convey it to primitive minds. Such minds soon conceive that varied but excessive repetition adds force to an idea and to its expression. Commingling of all symbols, hence, soon became a

* "Archæology."

† "Atlantis."

canon of art, whence it is that Egyptian, Mexican, Phœnician, Chinese, Chaldean and other early types of art are characterized by the mingling of inscriptions and drawings, and the appearance in the latter of an abundance of symbols and hieroglyphs. There is much evident imitation, undue minuteness and repetition.

These qualities are all detectable in the art of the insane. Some insane and imbecile patients are very successful imitators, but originate nothing. They copy the facade of the insane hospital with great skill or delineate the heads of animals with the minute accuracy characteristic of the art of primitive man. The imbecile Mind so ably delineated cats as to be called the Raphael of the cats. Others continuously repeat the same idea. One of Frigerio's patients filled sheets of paper with bees gnawing the heads of ants. Another, with a delusion of being shot, painted nothing but firearms. A third confined himself, as so many of the insane do, to arabesques. Insane patients may exhibit, as Toselli has pointed out, a tendency to ornaments of geometric forms and arabesques. This is especially the case with paranoiacs. The arabesques called the shark's teeth decorations of early Anglo-Saxon art frequently appear in the art of the English-speaking insane. Acute maniacs and secondary confusional lunatics may exhibit in their art a chaotic confusion which does not necessarily imply lack of taste. One of Lombroso's secondary confusional lunatics constructed a ship of an immense number of thin, small, brilliantly colored slips of wood so variously intertwined as to produce a very graceful effect. Insane artists, as Lombroso points out, often exhibit, like the Chinese, a tendency to exaggeration of particular details. In a landscape rejected by the Turin Salon a general view of the country was not only given but each blade of grass could be distinguished. In another rejected picture intended to be very imposing, the strokes of the brush produced all the effects of pencil-shading. Symbolism, arabesque tendencies, minuteness, are, as Lom-

broso has shown, evidence of reversion to primitive art. In addition to these reversion tendencies there is often found a total absence of perspective, while clearly enough the artist is not wanting in artistic powers, and would readily be taken for a true artist, educated in China or old Egypt. This is shown by the following two illustrations. The artist who designed these sculptures (Figures



FIG. I.—Phœnician Art, Engraved Pebbles, by a Paranoiac. (Lombroso).



FIGURE II.—Brick Bas-Relief, by a Paranoiac. (Lombroso.)

I. and II.) were two ignorant paranoiac countrymen, destitute of archæological knowledge.

One carved Phœnician figures from pebbles. The

other figure sculptured on a brick reproduces thirteenth century art, which was unknown to the sculptor. The disproportionate size of the feet and hands, the extreme smallness of the faces and the stiffness of the limbs recall this century. The carvings of a Genoese patient on pipes and vases closely resembled the products of the Neolithic age.

What appears to be obscenity appears in early art. In no small degree this was due to the worship of the principle of life expressed in various phallic emblems. As Simon* remarks, similar obscene tendencies frequently occur in insane art. Lombroso† reports the case of a cabinet-maker who would carve penes as ornaments to furniture. A captain at Genoa was fond of drawing scenes in a brothel. In many, the obscene character (and this is evidence of the insane symbolizing and analogizing tendency) is marked by the most singular pretexts as though demanded by artistic requirements. A paranoiac priest used to sketch his figures nude and so artfully drape them by lines as to bring the genitalia into strong relief. He defended himself against criticism that the indecency was only evident to those seeking evil. A parietic dement drew the vulva on the address of letters to his wife. An insane poet illustrated his verses with figures representing monsters struggling lasciviously with nude men and women, and monks and nuns in voluptuous attitudes. A paranoiac sexual pervert artist painted a full-length portrait of himself naked, ejecting worlds and surrounded by nude females, thus symbolizing the pervert contempt for the opposite sex. The symbols of power with which he surrounds himself seem decidedly puerile (Figure III). One paranoiac patient of mine carved a hermaphrodite deity copulating with itself. The symbolic sense he attached thereto had some remote relations to theological notions, which form the basis of sects like the Shakers. An epileptic drew an aura hallu-

* "Arch. de Anthrop. Crim., 1890."

† "The Man of Genius."

cination which he called the "Temptations of St. Anthony." A nude female was offering herself lasciviously to the saint (the epileptic); behind, a devil was copulating with her. The penis was represented by lines of shading in front of the vulva.

Symbolism is even more prominent in the art of the

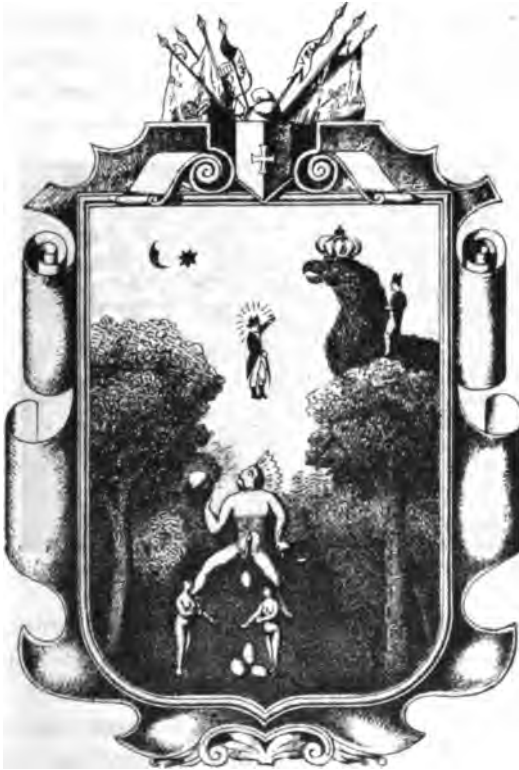


FIGURE III.—Creation of the World, by a Sexual Pervert. (Lombroso.)

insane than in ancient art. Arabesques readily lend themselves to fanciful figures of men imagined by children and savages. In many arabesques drawn by paranoiacs, Lombroso states, may often be traced, carefully hidden among the curves, sometimes a ship, an animal, a human head, or a railway train, or even landscapes and towns,

although the essential feature of arabesques is the absence of the human figure (Figure IV.)

Symbolism, hence, creeps in unexpected places in insane art and occult significances are often attached to rather unsymbolic subjects.

The landscape representing a Wisconsin lake was painted by a hysterical paranoiac under my care. Simply artistic as this landscape seems, the artist believed it to be symbolic of her innocence of certain attacks on her character, made by anonymous letters written by herself in the delusional state common to hysterics,



FIGURE IV.—Paranoiac Arabesques. (Lombroso.)

which so frequently causes punishment of innocent men. The symbolism is not apparent, and the delusions were as skilfully hidden (Figure V.)

The archaic tendency to symbolism, of course, is aided by factors resultant on absence of inhibitions on the faculty of seeing things with the "mind's eye." Samuel Palmer, the artist, exhibited no small degree of insight when he pointed out that truth in art stands at a fixed center midway between its two antagonists—fact and phantasm; in other words, between the errors of the untrained senses and the untrained, unchecked imagination. Hence, art, in no small degree, depends on the proper use of the visualizing faculty. This visualizing

faculty, to be of value, however, to the artist, must be clearly distinguished from fact. Savages, lunatics, children and intense egotists fail to make such distinction. The faculty varies greatly. Galton has found that among sane persons taken haphazard, the power of calling up mentally some past scene varies greatly. Some see vividly with their mind's eye the breakfast table, with each object upon it distinct and properly colored. Others find the general image faint or misty and wanting in



FIGURE V.—Paranolac Landscape. * (Kiernan.)

detail, while others again appear to have almost no power of visualization whatever, but reconstitute the scene by an exhaustive process of association. The disturbing influence, resultant on the absence of checks on the exercise of this visualizing faculty, is illustrated in the coloring of the mentally limited normal artist. Nisbet* points out that :

Painters have a much keener perception of light and shade in a given object than the ordinary observer. They see their model as a

* "Insanity of Genius."

patch of diversified color apart from tactile and motor suggestions of a disturbing character. Delacroix was exclusively a colorist with but little idea of form. He was bad at drawing, but in the manipulation of color his skill was marvelous. Delacroix once remarked that the finest picture he had ever seen was a Persian carpet. In his portraits he achieved but an indifferent likeness, but his pearl necklaces and jewels were startlingly real. Destitute of color, his compositions tended to the grotesque.

Color has such positive and direct relations with the archaic in art that it is of interest to compare here Delacroix with Turner, anent whom Nisbet states that:

Turner had a marvelous faculty for color, yet was little above an idiot. His mother, always a woman of ungovernable temper, became so demonstrably insane as to require hospital treatment. His father was a mean, dwarfish, unstable, loquacious barber. Turner as a boy was impenetrably dull.* During his apprenticeship in an architect's office he could only do one thing well—the washing-in of blue skies and orange gravel walks in architectural drawings. Here his faculty for color first showed itself. This led to his becoming a student at the academy, but he does not seem to have profited much from the tuition he received. His genius was slow in development. Probably it would never have been recognized at all had there not arisen an eminent critic who could see visions of beauty in canvases which to the uneducated eye seem inchoate masses of color.† Turner's reproductions from nature are untruthful in outline.‡

Color was Turner's forte and Ruskin places Turner among the seven supreme colorists of the world, the other six being Giorgione, Titian, Veronese, Tintoretto, Correggio and Reynolds, but Nisbet is of opinion that it needs an abnormally constituted eye to appreciate Turner's color, particularly his scarlet shadows in combination with white lights. Ruskin asserts that such shadows exist in nature,§ but Nisbet claims that the ordinarily constituted mind will be content to regard them either as a technical device for obtaining false brilliance or an aberration

* Nisbet speaks from the architect's stand-point.

† I can certainly not claim to have a very critically educated eye, yet, allowing for Turner's chief defect, bad drawing due in my judgment to astigmatism, I know of nothing more beautiful in art than "The Slave Ship." The possibilities of color contrasts from "yesty waves and skies" have never been, in my judgment, more beautifully realized.

‡ Allow for astigmatism.

§ "Modern Painters."

of the visual sense.* Nisbet admits that Turner had an extraordinary executive skill. "His small hand was so delicate that he could draw with a degree of refinement astonishing even to the opticians. His arm was so steady that he painted on upright canvases without the aid of a mahlstick, while his constitutional strength was such that he could work sixteen hours on a stretch."

The source of atavistic color effects, so be-praised by Delacroix, has been very lucidly pointed out by Ruskin† who says:

The reason for the somewhat singular, but very palpable truth that the Chinese, and Indians, and other semi-civilized nations, can color better than we do, and that an Indian shawl or Chinese vase are still in invention of color, inimitable by us, is their glorious ignorance of all rules; the pure and true instincts have play and do their work—instincts so subtle, that the least warping or compression breaks or blunts them, and the moment we begin teaching people any rules about color and make them do this or that, we crush the instinct generally forever. Hence, hitherto, it has been an actual necessity, in order to obtain power of coloring, that a nation should be half-savage. Everybody could color in the twelfth and thirteenth centuries, but we were ruled and legalized into grey in the fifteenth—only a little salt simplicity of their sea natures at Venice still keeping their precious, shell-fishy purpleness and power; and now that is gone; and nobody can color anywhere except the Hindoos and Chinese; but that need not be so and will not be so long, for, in a little while, people will find out their mistake and give up talking about rules of color, and then everybody will color again, as easily as they now talk.

Ruskin,† however, in his reaction against artistic cant, is biased in this eulogy by an element of error. He ignores the fact that removal of certain inhibitions while producing a stronger impression of certain details weakens the conception of a phenomena as a whole. He elsewhere guards against this very element of error, as follows:

Such, then, being the generally passive or instinctive character of right invention, it may be asked how these unmanageable instincts are to be rendered practically serviceable in historical or poetical painting—especially historical—in which given facts are to be represented. Simply by the sense and self-control of the whole man, not by control of the

* I have seen just such shades in early May mornings on Long Island Sound.

† "Modern Painters."

particular fancy or vision. He who habituates himself in his daily life to seek for the stern facts in whatever he hears or sees, will have these facts again brought before him by the involuntary imaginative power in their noblest associations; and he who seeks for frivolities and fallacies, will have frivolities and fallacies again presented to him in his dreams.

Ruskin* clearly describes the influence of such an element of error as to minuteness, color, symbolism and commingling of symbols in pre-Raphaelite art:

The formalized conception of scenery remained little altered until the time of Raphael, being only better executed as the knowledge of art advanced, that is to say, though the trees were still stiff, and often set one on each side of the principal figures, their color and relief on the sky were exquisitely imitated, and all groups of near leaves and flowers drawn with the most tender care and studious botanical accuracy. The better the subjects were painted, however, the more logically absurd they became. A background wrought in Chinese confusion of towers and rivers was in early times passed over carelessly and forgiven for the sake of its pleasant color; but it appealed somewhat too far to imaginative indulgence when Ghirlandajo drew an exquisite perspective view of Venice and her lagoons behind an Adoration of the Magi, and the impossibly small boats, which might be pardoned in a mere illumination, representing the miraculous draught of fishes, became, whatever may be said to the contrary, inexcusably absurd in Raphael's fully realized landscape, so as at once to destroy the credibility of every circumstance of the event.

The fact should be remembered, therefore, that the sense of color and its contrasts were deficient in early races. Even as high a race as the Greeks exhibited decided deficiencies. Primeval and mediæval art exhibits the same peculiarities and they atavistically appear in the insane. In alcoholic insanity and parietic dementia the color sense is often destroyed. Lombroso finds that the alcoholic lunatics use yellow excessively in their pictures. One paroxysmally alcoholic lunatic who lost all sense of color became very skilful in depicting white, and between his attacks was the best snow painter in France. A parietic dement artist, after the onset of his disease, collected miserable oleographs which he colored green. A paranoiac artist, at one time under my care, painted "A Struggle of the Youths and the Amazons,"

* "Modern Painters."

at its lascivious termination, in various tints of green. The effect was ghastly in the extreme and recalled the preference of Murger for women with green lips. The artist was not color-blind but attached a peculiar symbolism to this use of green. This was clearly a reversion to a fetichitic canon of art, such as regulated the times of the Egyptians and Greeks and reappeared in the Middle Ages as a consequence of the intellectual storm and stress resultant on Christian reaction against Christian vandalism.

The tendencies to undue use of analogies lead to color and shade otherwise inexplicable. Such uses of color led to interpretations seemingly at variance with the subject depicted. Thus, as Ruskin has pointed out, some of Correggio's Madonnas (and the same is sometimes true of Raphael) often suggest voluptuousness. On the other hand, Phryne has been so depicted as to create sympathy for violated purity. Many of these contrasts, pushed to the extreme, appear in the insane from the tendency to attach occult significance to trivial analogies. Dr. Noyes* reports the following case :

A paranoiac, who studied art under Gerome, at Paris, and returned to America to become an illustrator of books and magazines. He developed systematized delusions of persecution and frequently worked them out in very beautiful and artistic shapes. He executed twelve charts (one for each tribe of Israel) illustrating the progress of the Holy Spirit. They were delicately tinted in water colors, producing a beautiful result. In the center is the dove (symbol of the Holy Spirit), around it are seven crosses, most ingeniously arranged and intertwined (the crosses of SS. Andrew, Colomba, George, Michael, the Prophet, St Evangel and the Royal Priesthood). Looking at these crosses for the first time a new cross seems suddenly produced. To this the patient ascribes an occult significance as evidence that his work is controlled by a higher power and his fancy is inspired. Outside of these central crosses are the names of three ancient deities who had special attributes, and under these the parts of the body which these deities are believed by the artist to have represented, and then comes the name of a biblical personage in whom these elements were finally exemplified and embodied; to the left of the dove is Venus, representing blood exemplified in Moses; Osiris, representing flesh embodied in Adam; to the right, Psyche representing

* *American Psychological Journal*, 1888-89.

water typified in Noah. These three are but the gross material parts of man, representing necessary steps in his progress through life, but secondary and subordinate to the higher part of his nature, represented by Truth and the Spirit, which receive their ultimate embodiment in Christ. In the corners, between the branches of the cross, with these names are a Lion (which signifies might), an Eagle (denoting emulation), a Serpent on a Cross (this symbol puzzles Dr. Noyes, but is clearly a reference to Christ's declaration, "that as Moses lifted up the brazen serpent in the wilderness so should the Son of Man be lifted up." This old phallic emblem frequently appears in insane symbolism); a Book crossed by a



FIGURE VI.—Paranoiac Symbolization. (Noyes.)

Sword and a Pen (clearly symbolizes Christ's declaration, anent not bringing peace but a sword).

Outside of the circle enclosing the crosses are the seals sealing the Holy Spirit. In the large light triangles are names of the twelve apostles (the Seal of the Prophet); above these in the same space are the zodiac signs, with the names of the body parts they ruled astrologically (the Seal of the Zodiac); between these large light-colored triangles are the twelve holy stones, with their names represented (the Seal of the Holy Stones); in the small triangles directly above the holy stones are the names of the twelve tribes of Israel in vermillion (the Seal of the Twelve Tribes); directly beneath the holy stones, filling in the space

between the bottom of each large triangle is the Seal of the Germ, colored dark-green and running down each side of the top of these large triangles are small triangles colored dark-red and forming the Seal of the Aceldama or Bloody Seal. On the circumference are the names of the zodiacal constellations and under years the names of corresponding months, under which are the astrological constellations, Leo (July) being at the top and then, in order, to the right, Virgo (August) through the whole year. This is the last sealing of the Seed, the Seal of the Sun.

Of the four designs reproduced together, the first, the Shekinah, or Light of Love, represents that miraculous light or visible glory which was to the Jews a symbol of the divine presence; the second represents the angel Sandalphon with the Holy Grail at the side, and the letters Alpha and Omega at top (the design must be inverted to make out the Omega). (Figure VI.) While working on these sketches he made, at



FIGURE VII.—Insane Symbolization (Noyes)

the same time, the design for a book-plate, representing Cupid learning the alphabet, and the entire design, he says, is full of symbolism—a favorite word with him. Cupid has his finger on Alpha, signifying the beginning of his education. Above the book is Cupid's target, with a heart for the center, that he has pierced with an arrow, while the full quiver stands to the right. The curious fish under the Veritas represents the ichthyos of the early Christians, while three crosses, symbolic of the Christian religion, are in the upper left-hand corner, brought out by heavy shading of the cross-lines. On the book of knowledge is perched the dove, emblematic of purity, while the olive branch at the left of the book and the palm under the Fool's Bauble, give still other religious symbols. The lamp of knowledge is burning brightly in front of Cupid, while at his feet are the square, compass, triangle and pencils, symbolizing the designer's profession. (Figure VII.)

Morselli* has reported a similar case of symbolism, the artist being untrained and the artistic powers less:

CASE.—A wood-carver who developed systematized delusions after a period of depression, followed by an attempt at suicide. He was placed in an insane hospital. He was always drawing or carving generally allegorical figures or trophies. One carving represents a winged soldier on a pedestal. This figure has trophies on its head and other objects are carved on or around it, which symbolizes one of the patient's delusions. The wings recall the fact that when first attacked by insanity he was selling carved figures of Angels. The "Medal of the Order of the Pig," hanging to the breast of the winged soldier, is a token of contempt wherewith he desires to stigmatize the rich and powerful. The helmet with a lantern hanging to the visor symbolizes the police who took him to the insane hospital. The cigar placed cross-wise represents his disdain for kings and tyrants. The position of the leg symbolizes the fracture sustained in suicidal attempt. The pedestal was inscribed with newspaper scraps to which the patient attaches a mysterious significance. The trophy on the head of the winged soldier is the hieroglyph of a song. Each phrase in the song has its symbol in the trophy. The word poison, in the first verse, is represented by a cup; the two daggers of the song are also present. The "end of life" and the "tomb" are represented by a sarcophagus; love by two sprays of flowers; the funereal music by two trumpets crossed. The bell of the song is easily recognized. The procession of the third stanza appears as a cross in conjunction with a clerical hat, which symbolizes a priest. The spoon and fork which appear on the trophy denote that the patient eats and drinks in a convict prison. The patient, to protest against such convict slavery wears a set of these utensils in his button-hole.

Atavistic tendencies explain the appearance of artistic powers during insanity as the results of a conservative tendency struggling with disease. A hypomaniac period sometimes removes inhibitions of early training, so that difficulties are ignored and a seemingly mediocre artist executes a great work. Paoli reports the case of an artist whose copy of a Madonna of Raphael, painted during an attack, gained a prize medal at the Exhibition. It is evident, from the relative infrequency of artists among the English-speaking insane as compared with the mechanicians that such a conservative factor has much to do with the appearance of artistic "sports." Macaulay† (evidently not a little puzzled by the influence of

* *Arch. di Psichiat.*, 1881, fasc. III.

† "History of England," Vol. I. (Lovell's Edition), page 346.

such a factor which owed its power to the intellectual period of storm and stress which produced such progress in science during and after the Puritan revolution of 1640), says anent England in the reign of Charles II.:

It is not easy to explain why the nation which was so far before its neighbors in science should have been in art far behind them. It is true that in architecture an art, which is half a science—an art in which none but a geometrician can excel, an art which has no standard of grace but but what is directly or indirectly dependent on utility—an art of which the creations derive a part, at least, of their majesty from mere brick. England could boast of one truly great man: Christopher Wren. * * * But at the close of the reign of Charles II. there was not a single English painter or statuary whose name is now remembered. This sterility is somewhat mysterious.

The influence of the same factor is evident in the relative frequency of lunatics with artistic tendencies among the insane of the Italian districts which furnish most artists. It is also demonstrated by the atavistic effects of disease on artists who become insane. Andriani* found that of eight acutely maniacal painters four retained their skill during the attack. In two bizarre ideas appeared, while the work of two more, markedly deteriorated, so much so in one instance that the patient bitterly deplored, after his recovery, the work done during his insanity.

Paretic dement artists lose all sense of proportion. They begin to sketch trees which, if drawn to their entirety, would pass beyond the frame. Exaggeration pushed to the improbable and even the impossible, characterizes paretic dementia art, according to Regnard.† One of his patients painted a man whose head touched the stars while his feet were on the earth. Lombroso forcibly points out that paretic dement art defects are due to amnesia. They often omit essentials from this cause. Frigerio has observed the case of a paretic dement artist who drew a picture of a general seated and forgot the chair. Simon‡ has had under care a paretic

* Cited by Lombroso.

† "Sorcellerie "

‡ "Arch. de Anthropol. Crim.," 1890.

dement artist who believed himself to be a second Horace Vernet, yet drew horses with four strokes and a tail.

The most salient characteristic of art in maniacs, according to Lombroso, is absurdity in drawing or coloring, due to an exaggerated association of ideas through which the connecting links, which would serve to explain the author's meaning, are lost. A maniac artist painted "The Marriage at Cana of Galilee;" drew the Apostles excellently, but in place of Christ put a large bouquet of flowers. The existence of an archaic symbolism is here evident. A periodically lunatic during the paralytic intervals painted fairly, but with excessive minuteness of detail. During the attacks this minuteness became grotesquely exaggerated.

Ruskin divides the grotesque into three kinds:

Art arising from healthy but illogical play of the imagination in times of rest. Art arising from irregular and accidental contemplation of terrible things or evil in general. Art arising from the confusion of the imagination by the presence of truths which it cannot wholly grasp.

All these types of the grotesque are found in the insane, but particularly the last two. The first is rare, but it does exist, since art as an early acquirement is less affected by insanity than later acquirements, whence it comes that insanity at times merely tinges art. Thus, a periodically insane Italian mason became a painter in the Pesaro insane hospital. His attacks were always announced by a tendency to caricature the hospital staff whom he condemned in effigy to strange punishment. The cook offended him, whereupon he painted the cook as a stout, ruddy man, in the attitude of an *Ecce Homo* behind a grating which prevented him touching the appetizing viands placed before it. A patient of Dr. Virgilio drew an excellent figure of a maniac under excitement. Mancini, after his recovery from insanity, painted a woman offering for sale a picture painted by a madman. Magnoni had remained for fourteen years listless and idle in the Reggio insane hospital. Dr. Zani induced him to paint, whereupon he covered the walls of

the wards with excellent frescoes. One of these depicted the story of Ugolino so vividly that a patient threw meat to the father and children to prevent them starving. Magnan* states that Gill, the French artist, came of a family rife with apoplexy and insane taint. Like all degeneratively tainted parietic demented he had seemingly lucid remissions. During one of these remissions he sent to the "Salon" a picture of a lunatic with depressing delusions, crouching in the corner of a seclusion-room in an insane hospital. Later he sent to the Salon "Herodias with the Head of John the Baptist in a Charger." The decapitated head was his own and the plate was simply twenty franc pieces joined by their edges. The symbolism here evident was certainly not entirely of an insane type. An excellent draughtsman who was a by no means contemptible philologist, published illustrated charts very similar to those of the patient of Dr. Noyes. The draughtsman in question was an esteemed contributor to the *Inter-Ocean*.

There is here evident a conservative factor struggling with the incubus of disease. The productions of the patient of Dr. Noyes further evince this. The influence of an approach to a healthy state is shown in the figure "Sub Rosa" and in the "Piping Imp and Dancing Frogs" (Figure VI.), which, as Dr. Noyes remarks, are most delicately humorous fancies. The "Witch" (Figure VIII.) may be an attempt to represent the "Midnight Hags" of superstition, or an outcome of a visual hallucination and a resultant delusion, like that which oppressed the geologist, Hugh Miller, during the illness which ended his life. An epileptic patient, at one time under my care, drew a very similar hallucinatory aura: An old woman in the garb of witch rode up to him on a black cat. She struck at him just before he lost consciousness.

These last figures are excellent illustrations of Ruskin's first and second types of the grotesque, while the third is equally well illustrated in the symbolic pictures.

* *Jour. de Med. de Paris*, Dec., 1891.

The energy with which some insane artists paint and the copiousness of their productions recall the tireless energy of the insane scribblers. Melancholiac artists however suffer from the abulia produced by the disease.

The atavistic effects of insanity are excellently illustrated in the career of the poet-artist Blake. He, as Dr. W. A. F. Browne* truthfully and forcibly says, betrayed undeniable symptoms of his mental malady in his paintings. Ruskin,† albeit an admirer of Blake, states :

Blake was sincere but full of wild creeds and somewhat diseased in brain.



FIGURE VIII.—The Witch. (Lombroso.)

He was the son of a hosier and of stunted growth. In his youth exhibited a genius for art and poetry. When a boy in his father's shop he drew pictures on the counter and wrote poetry on the backs of bills. He was moody, mystical and led a life of dreamy abstraction. He had hallucinations of hearing; celestial voices called him. He became an engraver, but wrote poetry copiously; between his twelfth and fifteenth year he

* *Journal of Psychological Medicine*, Vol. VI.

† "Modern Painters."

wrote seventy pages of Visual hallucinations of poets, heroes and princes occurred, which he accepted as real. His designs were revelations which he was commanded to publish by celestial voices. He claimed that from his dead brother he learned the truly beautiful, original methods, employed in engraving and tinting his plates. This spirit counseled him as to the treatment of some of his best known and most successful works, "Days of Innocence." "Write," said the spirit, "the poetry, and draw the designs on copper with a liquid (which Blake always kept secret), then cut the plain parts of the plate down with aqua fortis. This will give the whole, both poetry and figures, in the manner of the stereoscope." Jesus Christ taught him how to mix his colors. The "Gates of Paradise," another of Blake's works, although ambitious in scope is quite incomprehensible. It consists of twenty-seven designs seemingly intended to embody the fall of Lucifer and the creation of man, but swarms with figures, demoniac, human and divine. Blake's egotism was so colossal that he wrote in 1800 to Flaxman:

I am more famed in Heaven for my works than I can well conceive. My brain are studies and chambers filled with books and pictures of old, which I wrote and printed in ages of eternity, before my mortal life and these works are the delight and study of archangels. Why, then, should I be anxious about the riches or fame of mortality?

Moses, Virgil, Dante and Milton were seen by Blake as "majestic shadows, gray, but luminous and superior to the common height of men," Blake's mind, as Allan Cunningham* points out, at all times resembled the first page in the magician's book of glamour which made

The cobwebs on the dungeon wall
Seem tapestry in lordly hall.

Blake's defects arose from the fact that he did not always clearly distinguish between the real and the ideal visualization. His mind could convert the most ordinary occurrence into something mystical and supernatural. He often saw less majestic shapes than those of the poets of old:

* "Great British Painters."

"Did you ever see a fairy funeral, madam?" asked Blake of a lady. "Never," was the reply. "I have," said Blake, "but never before last night. I was alone in my garden. There was great stillness among the branches and flowers and more than common sweetness in the air. I heard a low and pleasant sound and knew not whence it came. At last I saw a broad leaf of a flower move and underneath I saw a procession of creatures of the size and color of green and gray grasshoppers, bearing a body laid out on a rose leaf, which they buried with songs and then disappeared. It was a fairy funeral."

He talked, as Ireland* remarks, familiarly with his supernatural visitors. The specters that entered his room were used as models. He would look at them awhile, then draw a little and then look up again. Sometimes he would stop at his work, saying that the spirits had walked off. Once he drew King Saul in armor, but could not finish the helmet, because from the way Saul was standing he could not see the whole of it. Some months after, when the specter of Saul came back, he obligingly stood in such a position that Blake could sketch the helmet. Once he was employed to furnish a likeness of Sir William Wallace. In the presence of his employer Blake cried out: "Sir William Wallace! there—there I see him in all his glory!" He commenced to draw, but suddenly paused. When asked why, he replied "I cannot finish him. Edward I. has stepped in between him and me." "That is lucky," responded his employer, "for I want him also." Blake sketched the Plantagenet on a sheet of paper, whereupon his majesty politely gave place to Sir William Wallace. Here is evidence of Blake's rapid visualization of correlated associations. Allan Cunningham reports a conversation with a friend of Blake, who had collected several of his sketches, which illustrates this same peculiarity. Said Allan Cunningham's informant:

Observe the poetic fervor of that face. It is Pindar as he stood a conqueror in the Olympic games; and this lovely creature is Corinna, who conquered in poetry in the same place; that lady is Lais, the courtesan. With the impudence which is part of her trade, she stepped in between Blake and Corinna, and he was obliged to paint her to get rid of her.

* "Through the Ivory Gate."

The most grotesquely curious of Blake's visions was his "Ghost of a Flea," anent which Allan Cunningham gives the following account from the friend before mentioned. He said:

This is the greatest curiosity of all. Only look at the splendor of the coloring and the original character of the thing. "I see," said I, "a naked figure with a strong body and short neck—with burning eyes which long for moisture and a face worthy of a murderer, holding a bloody cup in its clawed hands, out of which it seems eager to drink. I never saw any shape so strange nor did I ever see any coloring so curiously splendid—a kind of glistening green and dusky gold, beautifully varnished. But what in the world is it?" "It is a ghost, sir—the ghost of a flea—a spiritualization of the thing." I found Blake one evening more than usually excited, who told me he had seen a wonderful thing—the ghost of a flea. "And did you make a drawing of him I enquired?" "No, indeed," he replied, "I wish I had; but I shall if he appears again." He looked earnestly into a corner and said: "Here he is; reach me my things; I shall keep my eye on him. There he comes—his eager tongue whisking out of his mouth, a cup in his claw to hold blood, and covered with a scaly skin of gold and green—" and as he described him so he drew him.

The more demonstrably insane productions of certain artists display this tendency to the occult in the real. Like another insane artist of less genius but greater suspicious delusions—Benjamin Haydon, Blake appealed to the general public with an exhibition of designs chiefly "of a spiritual and political nature." But, as Allan Cunningham forcibly remarks, the spiritual works and political notions of Blake were unlike those of any other man. One piece represented "The Spiritual Form of Newton Guiding Leviathan," and another, "The Spiritual Form of Pitt Guiding Behemoth." Those who missed instruction in his pictures found, Allan Cunningham states, entertainment in his catalogue, a wild performance, overflowing with the oddities and dreams of the author which is evidently an enunciation of Blake's notions of the laws of art. Blake says anent color, for instance:

Coloring does not depend on where the color is put but on where the lights and darks are put and all depends on form or outline. Where that is wrong, coloring can never be right and it is always wrong in Titian, Correggio, Rubens and Rembrandt. Until we

get rid of them we shall never equal Raphael and Albert Durer, Michael Angelo and Julio Romano. Clearness and precision have been my chief object in painting these pictures, clear colors, and firm determinate lineaments, unbroken by shadows, which ought to display and not hide form as is the practice of the later schools of Italy and Flanders

* * * Oil has been falsely supposed to give strength to colors, but a little consideration must show the fallacy of this opinion. Oil will not drink nor absorb color enough to stand the test of any little time and of the air. Let all the works of artists since Rubens' time witness to the villany of those who first brought oil painting into general opinion and practice, since which, we have never had a picture painted that would show itself by the side of an earlier composition. This is an awful thing to say to oil painters; they may call it madness, but it is true. All the genuine old little paintings are in fresco—not in oil.

There are many elements of truth in this criticism and with all its exaggeration it does not pass beyond the normal expression. The paranoiac, however, peeps out in conclusion drawn therefrom.

Those "abominations, concealed outlines and tricks of color," bring on one of those visionary fits to which Blake was so liable, and he narrates with the most amusing wildness sundry revelations made to him anent them. He informs us that certain painters are demons let loose on earth to confound the sharp, wiry outlines and fill men's minds with fear and perturbation.* He admits that he himself "was for sometime a miserable instrument in the hands of chiaro-scuro demons," who employed him in making "experiment pictures in oil." Anent which Blake states:

These pictures were the results of temptations and perturbations laboring to destroy imaginative power by means of that infernal machine called chiaro-scuro, in the hands of Venetian and Flemish demons who hate the Roman and Florentine schools. They cause that everything in art shall become a machine; they cause that the execution shall be all blocked up with brown shadows; they put the artist in fear and doubt of his own original conception. The spirit of Titian was particularly active in raising doubts concerning the possibility of executing without a model. Rubens' is a most outrageous demon and by infusing the remembrances of his picture and style of execution, hinders all power of individual thought. Correggio is a soft, effeminate, and conse-

* Allan Cunningham, "Great British Painters."

quently, most cruel demon, whose whole delight is to cause endless labor to whoever suffers him to enter his mind.

Titian was, however, the most malignant of his persecutors. He told Charles Lamb that :

All the while he was engaged on his water paintings Titian was disturbing him—Titian the evil genius of oil painting.

Blake's intense belief in his mentally-created visions was infectious, so that, as Allan Cunningham remarks, some acute and sensible persons who heard him expatiate, shook their heads and hinted that he was an extraordinary man and there might be something in the matter. His wife, a modest, loving, intelligent, but not highly educated woman, accepted the truth of all his visions. As so often happens with paranoiacs, *folie-a-deux* resulted,* but as Blake's persecutors were in his ideal world no serious consequences followed. Blake's mental defect showed itself in his inability to distinguish the objective from active reproductions of the memory. He partially recognized the mental origin of some of his visions.

"The other evening, taking a walk," said he, quietly, one night, "I came to a meadow, and at the further end of it, I saw a fold of lambs. Coming nearer, the ground blushed with flowers and the wattled cote and its woolly tenants were of an exquisite pastoral beauty. But it proved to be no living flock, but beautiful sculpture." A lady present thinking this a capital holiday show for her children, eagerly interposed, "I beg pardon, Mr. Blake, but may I ask where you saw this?" "Here, madam," answered Blake, touching his forehead.

As a rule, however, productions of Blake's visualizing powers were facts to him, not mental visions, whence the incomprehensibility of much of his work. When the fact element is uppermost, puerile minuteness and repetition mar the work. The bathos of insane egotism swamped the artist. Allan Cunningham most forcibly, yet appreciatively says :

If we look at the man through his best and most intelligible works we shall feel that he, who could produce the "Days of Innocence" and "Experience," the "Gates of Paradise" and "Job," was the possessor of very lofty faculties, with no common skill in art; and moreover that,

* See ALIENIST AND NEUROLOGIST, 1883-84.

both in thought and mode of treatment, he was a decided original. But should we, shutting our eyes to the merits of these works, determine to weigh his worth by his "Urizen," his "Prophecies of Europe and America" and his "Jerusalem," our conclusion would be very unfavorable. We would say that, with much freedom of composition and boldness of posture, he was unmeaning, mystical, and extravagant and that his original mode of his working out his conceptions was little better than a brilliant way of committing absurdity.



FIGURE IX.—"Infant Joy." (Scribner.)

There is a puerility and stiffness about certain works of Blake which decidedly resembles the puerility and stiffness of ancient art. This is especially shown in his "Infant Joy" when contrasted (Figure IX) with his "Job" and the illustrations to Blair's "Grave." It is evident that in his case nervous disease was a destroyer, not a creator.

Nisbet,* discussing the mental characteristics of Turner, states :

Turner, as regards the general cast of his mind was little above an idiot. The only moral characteristic he appears to have had in excess was avarice. He was saving even in the matter of half-pence and haggled with dealers like a Jew† peddler. For the rest he fell infinitely below mediocrity. The mastery of English grammar was beyond him; he could never write nor speak like a person of education, while his manners were awkward, slovenly, unconciliatory—boorish in the extreme. When he attempted to explain himself on the subject of art his words were mere gibberish. Nisbet then cites from Hamerton‡ the following sample of Turner's philosophical observation, which he invites the reader to make sense of if he can: "The wrong virtue enduring difficulties, or worth in the bare imitation of nature, all offers received in the same brain; but where these attempts rise above mediocrity it would surely not be a little sacrifice to those who perceive the value of the success to foster it by terms as cordial that cannot look so easy a way as those spoken of convey doubts to the expecting individual. For as the line that unites the beautiful to grace and these offerings forming a new style not that soul can guess as ethics. Teach them of both but many serve as the body and the soul and but presume more as the beacon to the headland which would be a warning to the danger of mannerism and the disgusting."§

In this strangely muddled brain there appears to have been some occasional stirring of the poetic sense, his bad spelling and defective grammar, notwithstanding. Turner appealed to the muses. "Lead me Along," he sighed in one passage "with thy armonious verse." The result was always ludicrous. Much of his poetry, in fact, is sheer nonsense, like the following stanza :

If then my ardent love of thee is said with truth
Agents the demolition of thy house forsooth,
Broke through the trammel doubts and you, my rhyme,
Roll in to being since that fatal time.||

Turner's habitual sullenness, moroseuess and unsociability has been explained on the theory he was crossed in love. This hypothesis Nisbet rejects, for excellent reasons, referring to the insane taint derived from his mother. They could have been produced by the early training of Turner, even had no such taint existed. The rebuffs and slights certainly suffered by a man of Turner's artistic temperament because of his

* "Insanity of Genius"

† Was this not the consequence of habits formed in poverty-stricken youth.

‡ "Life of Turner."

§ Sense can be made of this; considered as the production of an educated man; it is incoherently periphrastic. An uneducated man might and often does write just as incoherently when thrown into the contrasted surroundings of the type into which Turner was thrown in early life and subsequently.

|| Here continuity is discernible. Badly educated youths write just like this.

barber father and his unphilistine display of color-sense certainly produce such irritability in a badly educated man as sensitive as Turner was. The incoherent sample of his "philosophical observations," cited by Hamerton, is readily read as a pathetic plea for the charitable treatment of artistic youths who have shown that they merit recognition.

Ruskin, clearly recognizing both the value and defects consequent on Turner's artistic training, says:

Turner had been forced to pay early attention to whatever of good and right there was even in things naturally distasteful. The charm of early association had been cast around much that to other men would have been tame. While making drawings of flowers, gardens and Palladian mansions he had been taught sympathy with whatever grace or refinement the garden or mansion could display and to the close of life could enjoy the delicacy of trellis and parterre, as well as the wildness of the wood and the moorland; and watch the staying of the silver fountain at its appointed height in the sky with an interest as earnest, if not as intense as that with which he followed the crash of the Alpine cataract into its clouds of wayward rage. The distinct losses to be weighed against this gain are, first, the waste of time during youth in painting subjects of no interest whatsoever—parks, villas and ugly architecture in general; secondly, the devotion of its utmost strength in later years to meaningless classical composition, such as the Fall and Rise of Carthage, Bay of Balæ, Daphne and Leucippus and such others, which, with infinite accumulation of material, are yet utterly heartless and emotionless, dead to the very root of thought and incapable of producing wholesome or useful effect on any human mind, except only as exhibitions of technical skill and graceful arrangement; and, lastly, his incapacity, to the close of life, of entering heartily into the spirit of any elevated architecture; for those Palladian and classical buildings which he had been taught that it was right to admire, being wholly devoid of interest and in their own formality and barrenness quite unmanageable, he was obliged to make them manageable in his picture by disguising them and to use all kinds of playing shadows and glittering lights to obscure their ugly details; and as in their best state such buildings are white and colorless, he associated the idea of whiteness with perfect architecture generally and was confused and puzzled when he found it grey. Hence he never got thoroughly into the feeling of Gothic; its darkness and complexity embarrassed him; he was very apt to whiten by way of idealizing it and to cast aside its details in order to get breadth of delicate light. In Venice and the towns of Italy generally, he fastened on the wrong buildings and used those which he chose merely as a kind of white clouds, to set off his brilliant groups of boats, or burning spaces of lagoon.

Nisbet argues that Turner evinced the insane taunt derived from his mother. He points out that:

Turner passed the last years of his long life in misanthropic seclusion in a house which he allowed to fall into the utmost dilapidation. His eccentricities were quite of the insane order. When Maclise called to tell him of Haydon's suicide, Turner scarcely stopped painting but merely growled out between his teeth: "He stabbed his mother! he stabbed his mother!" "Good heavens!" said Maclise, so excited that he was prepared for any new horror, "you don't mean to say, Turner, that Haydon ever committed a crime so terrible?" Turner made no reply, but slowly shouted: "He stabbed his mother! he stabbed his mother!" Hamerton supposes that Turner meant that Haydon had injured the Royal Academy and this supposition is fully justified by Turner's remarks on other occasions. Nisbet finds it more reasonable, however, to believe that "the words were an insane 'tic,' such as is often to be found in the speech of lunatics."

Turner clearly inherited a neuropathic taint, but this, despite its assistance by bad education, just marred his genius and no more. His astigmatism unrecognized because of this taint, did even more than the intellectual defect. Turner's failure to recognize the necessity for improvement of his education was certainly evidence of a distorted "ego."

The life of Flaxman,* the sculptor, of whom Blake deservedly entertained such a high opinion, illustrates both the heredity factor and the triumph of a conservative element over disease in genius.

Flaxman's father was an Englishman who modeled and sold plaster images. This fact would be of no special bearing in Catholic countries where ecclesiastical influences foster art in the humblest by making it a source of gain, but in an Englishman it indicated an artistic tendency. Flaxman was born so rickety that in his early youth he required crutches. His head was always disproportionate and he remained round-shouldered to deformity. Always drawing, he became an early and precocious prize-winner of the Royal Academy.

In this, the influence of monotony on a sickly, crippled youth, deprived of companionship, inheriting artistic tendencies, surrounded by a classical, artistic atmosphere, such as the shop of an English modeler must have had, was demonstrably evident.

He early became and remained a Swedenborgian, nor is this surprising, for in such a creed there is much that appeals to the art sense.

* Nisbet, "Insanity of Genius."

He endeavored to convert Blake who saw visions to this creed (Flaxman saw none), but he thought Swedenborg a visionary. In this the egotism of the lunatic peeped out in Blake. Visions were too much his own forte to recognize a superiority in those of another man. Flaxman remained, as was natural, an enthusiast on art. With no models (other than his father's plaster casts, which must have had classic tendencies), even as a lad, Flaxman grasped the true principles of Greek design. He recovered the art of combining ideally graceful form and rhythmical composition of lines with spontaneousness and truth of pose and gesture. An elder brother became a modeler like the father. Flaxman died in his seventy-first year.

The calmness of such a career contrasts markedly both with the calmness of the paranoiac career of Blake and the stormy career of Haydon, in whom a hereditary neurotic taint co-existed with irritating cerebral factors engendering suspicion.

The clamorous, frenzied life of Haydon, as Nisbet* forcibly remarks, is one of the saddest in the history of art. He had an insane heredity on both sides. Folly, extravagance, irascibility and lawsuits had almost ruined his father's family. During youth he suffered from transient amblyopia. He also inherited gout, which was of the suppressed type and hence peculiarly liable to produce suspicious and depressed states. Haydon early developed artistic genius, art fanaticism and demonstrably enormous egotism. The extreme egotism of the degenerate at puberty was observable in him. He hated his father's book-selling business, to which he was apprenticed, as his tastes were all for drawing. He rose early and sat up late, pondering ambitiously until his whole frame became convulsed with the thought of being a great painter. Sent to London with one hundred dollars to make his way, he imagined he was destined to revive all the ancient glories of painting and worked with such energy that his gums were "sore from the clenched tightness of his teeth." His fiery zeal at first only brought him disappointment, his pictures being received with an indifference which to the impetuous young painter was agonizing. Success came by-and-by, but it profited him little. By the exhibition of his large canvases he made large sums of money, but he was, nevertheless, constantly struggling with debt and addressing passionate prayers to the Almighty. The necessities of daily life appear to have had a maddening effect upon Haydon's fervid soul. Repose he never found. Three years later he attempted to cut his throat, and failing, shot himself dead.

Had it not been for his suppressed gout and resultant querulent tendencies, he might have survived his taint. The autopsy results (meningo-encephalitis) indicate the

* "Insanity of Genius."

great influence of this factor. Much of what the critics deservedly called Haydon's "bad" painting was due to its marring influence. The same marring influence of insanity is noticeable in the careers of Landseer and Romney.

Sir Edward Landseer never painted anything of value after his insanity became demonstrable. About his fifty-eighth year the appearance of the insane tendency to the occult in the real of his "Kind Star" (a figure with a star in its head bending over a dying stag), betokened the onset of insanity which swept genius into wreck. When Romney became insane his skill departed.

Ruskin clearly outlined the psychological principle underlying the atavistic appearance of art in the insane and imbeciles, as follows:

Herein is the chief practical difference between the higher and lower artists. All the great men *see* what they paint before they paint it—see it in a perfectly passive manner cannot help seeing it if they would; whether in their mind's eye, or in bodily fact, does not matter; very often the mental vision is, in men of imagination, clearer than the bodily one; but vision it is, of one kind or another—the whole scene, character or incident passing before them as in second sight, whether they will or no, and requiring them to paint it as they see it; they not daring, under the might of its presence, to alter one jot or tittle of it as they write it down or paint it down; it being to them in its own kind and degree always a true vision or Apocalypse, and invariably accompanied in their hearts by a feeling correspondent to the words—"Write the things *which thou hast seen*, and the things *which are*."

The greater the power of association the more vivid the mental picture. The more vivid the picture the greater the need of inhibition manually to symbolize the clearness and rid it of the injuriously excessive subjective element already pointed out by Palmer. The differences in the resultant products of the imbecile and the dement from those of other insane artists turn on this principle which has been greatly ignored by most authorities; especially Lombroso, who states, anent a class of congenital paranoiacs, whom, like Ray's pupils (Nichols and others), he designates as imbeciles or mattoids:

That in their artistic productions the stamp of mental disorder is evident not so much in exaggeration of ideas as in the disproportion of the latter among themselves. This class introduce drawings into their sentences as if to heighten their force (a reversion of the type already

described). Wahltuch, one of this class, published a work on "Psychography," in which he states that ideas are represented in the brain by so many images impressed on the cerebral convolutions. The work is full of symbolization; a lighted candle is the symbol of physics; what Wahltuch calls alitology (or the faculty of judgment) was symbolized by the nose (a reference to possible uses of smell); a ring signified ethics and a fishhook, motion. The author despairing of making his meaning clear by his pen, crammed his book with diagrams of brains covered by such figurative signs. He even composed an unrhythmically incoherent tragedy whose characters had their heads covered by such signs.

A similar work, by a contributor to the *Inter-Ocean*, published in Chicago, was favorably reviewed by several magazines. The mattoids usually strive for, and often obtain, prizes offered by municipalities for monument designs, whence the artistic horrors of many Continental European, English, and American cities, noticeably Washington, D. C. This effect of prize stimulation on the inventive stupidity of the artistic mattoids has been recognized by many historians. Macaulay* especially emphasizes it in a little fable anent a "Royal Society for the Improvement of Wines." Even in artistically dominated countries like Italy, mattoids press forward for prizes. Lombroso states that:

Twenty-five per cent. of the competitors for a monument design prize offered for a statue of Victor Emmanuel, were of this class. The most general characteristic of these productions was imbecility, while weak in conception they were rich in grotesque allegorical symbols. The pictures of those inspired by insanity are often absurd and disproportionate but at the same time there is a true, even, excessive originality, mingled with a savage beauty *sui generis* which, up to a certain point recalls the masterpieces of medieval, Chinese and Japanese art so rich in symbols. Lombroso explains this as due to the fact that the insane artists suffer from an excess of genius which ends by crushing itself, while the mattoid artists suffer from intellectual poverty.

A truer, more logical and more demonstrable explanation is found in the fact that the demonstrably insane art of the artistic insane approximates the mattoid art. This clearly shows that in the insane, a conservative factor exists, absent in the mattoids, who are one step further advanced in degeneracy. This is singularly well

* "Essays," Lovell's Edition, Vol 1.

shown in the illustrations given and in the careers of the artists cited. Dr. Noyes' patient was as puerile in his symbolism as are many mattoids, but his "Imp and Dancing Frogs" and "Sub Rosa" are true art. The same fact is noticeable in Blake, certainly one of the highest types of Lombroso's artistic insane. His demonstrably insane productions approximate in inventive-stupidity, the mattoid productions, but the conservative tendency just saves them from utter inanity. Haydon more clearly approximated the mattoid as his brain disease progressed and so did Landseer and Romney. Inventive-stupidity has a peculiar charm for certain "practical" limitedly-educated minds. Lombroso cites, with evident amusement, the mattoid who proposed to use the pedestal of his statue of Victor Emmanuel for public lavatories. The Glasgow, Scotland, town council, however, at one time seriously debated the proposal to utilize a proposed statue to Nelson at once as a monument and as guide-post to the neighboring town of Nelson, by putting on the pedestal: "Glasgow to Nelson, Six Miles." Research in the Congressional Record would be rewarded by multitudinous duplications of this "practical" sympathy with inventive-stupidity. This rude commingling of the useful with the beautiful is an atavistic return to the art of the fourteenth and fifteenth centuries, when, as Allan Cunningham remarks, the English artist was expected to be at once architect, carpenter, painter, armorer, jeweler, sculptor, goldsmith, saddler and tailor; in short, one of Mark Twain's "Concentrated Inhabitants." Such old conceptions of art still persist and aid the mattoid in securing prizes for his inventively stupid *utile cum dulce* conceptions.

In the art, as in the literature of the insane, evidence is found that insanity mars, but does not make genius.

DRUG HABITUATION.*

By LUCIUS W. BAKER, M. D., Baldwinville, Mass.,

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ALL functional acts of the body have a tendency to repeat themselves.

In early infancy the vital processes of respiration, circulation and digestion constitute the entire automatic life, but as time passes and sensations from the external world impinge upon the plastic mass the various functions of the body are gradually developed in the direction in which they are most frequently exercised.

Especially is this true of the nervous system, the cells of which are quick to receive, retain and transform impressions made upon them. Wood says:

All nervous tissues have the faculty of being permanently impressed by temporarily acting stimuli, the thing remembered being in fact the functional excitement.

From the simplest reflex act of infancy to the most elaborate automatic actions of adult life, the entire process of development is one of growth in accordance with the way in which it is most frequently brought into use.

Carpenter says:

There is no reason to regard the cerebrum as an exception to the general principle, that while each part of the organism tends to form itself in accordance with the mode in which it is habitually exercised, this tendency is especially strong in the nervous apparatus in virtue of that incessant regeneration which is the very condition of its functional activity. It scarcely indeed admits of doubt that every state of ideal consciousness, which is either very strong or is habitually repeated leaves an organic impression on the cerebrum in virtue of which the same state may be reproduced at any future time in response to a suggestion fitted to excite it.

The first impulse emanating from a nervous center traverses its path with difficulty, but the way is thus

* Read before the Boston Medico-Psychological Society, December 17, 1891.

made easier for a second and for a third, while frequent repetition of the process establishes as a functional disposition that which at first was but a single impulse or discharge of nerve force.

The facility with which nervous processes repeat themselves constitutes the physiological basis of all automatic action. The entire life of the individual is one long process of training of the nervous mechanism so that it may at all times perform its work to the best advantage. Heredity may perhaps determine the stability or instability of the nervous system, but education and environment are chiefly responsible for the way in which it shall be exercised and developed.

A frequently repeated impression on the nervous centers produces modifications in their nutrition and perhaps structure, which, if continued, become the physical basis of habit, the force of which increases with indulgence until the individual's entire method of living is controlled by his habits of thought and action as the nervous tissue becomes crystallized into permanence along the lines in which it has been exercised.

An analogous result may follow the continued use of certain drugs, more especially the stimulants and narcotics. These may so influence the nerve centers as to establish an abnormal condition therein, which is in itself a constantly-recurring plea for a repetition of the peculiar effects of the drug.

The list of remedies possessing the peculiar power to create a demand for their continued use is quite limited, but their effects are sufficiently noticeable to warrant, at least, a brief consideration.

In nearly every community individuals may be found who have become addicted to the habitual use of one or more drugs; and this number is, I believe, on the increase. The discovery of a new sedative, narcotic or hypnotic is soon followed by the announcement that its frequent use has in some cases become a necessity.

Among the later drugs chloral, paraldehyde, cocaine

and antipyrine have each had devotees, who have found it difficult to discontinue their use. The sales of drugs possessing the power to soothe or stimulate the nervous system is far in excess of the requirements of physicians' prescriptions, indicating their frequent use outside of the medical profession.

The secular press, perhaps in some instances ingeniously manipulated by those interested, has of late become a most powerful means of spreading a knowledge concerning the newer hypnotics and sedatives among the laity, who in turn are not slow to avail themselves of every real or fancied means of relief for pain, insomnia or exhaustion. To this may be added the tendency among some physicians to discuss these remedies with their patients, who, learning the contents of their prescriptions, resort to these drugs whenever, in their opinion, their use is indicated:

I believe there never was a time when the chemist's skill was so taxed to discover new remedies for the relief of pain and insomnia as at present. New drugs for this purpose are constantly being put upon the market. This is well, and in skilled hands is a safeguard against the formation of any single drug habit by providing many remedies and combinations for the accomplishment of the same results, but it may also be a source of danger to the individual who ignorantly attempts to prescribe for himself.

Granting, then, that the use of those drugs which directly affect the nervous system is increasing rather than diminishing, a partial explanation of this fact, it seems to me, may be found in the conditions under which much of the work of the present day is performed, and the circumstances under which we live as compared with even fifty or seventy-five years ago. While the general affairs and comforts of life are vastly improved, yet the printing press, the telegraph, the telephone, the ease of transportation and rapidity of communication, the tendency to congregate in cities and the increasing competitions of business, all multiply the excitements of life, quicken our rate of living and require a greater expenditure of nerve

force. The inevitable results of all this is an increasing complexity and sensitiveness of the nervous system. Advancing civilization brings with it intensified nervous susceptibility. Sir Crichton Brown says:

Our brains are finer in structure and more subtle in mechanism than were those of our ancestors.

It is not strange, therefore, that the restless life which we live, crowding into a day, with our modern conveniences, the activities of a former week, should produce modifications in the nervous system which makes us more sensitive to external impressions, nor can we wonder that this highly organized nervous system, the outcome of modern civilization, should often feel the need of artificial stimulation or sedation to enable it to hold its own in the fierce struggle for wealth, position or the necessities of daily life. Beard says:

When the nervous system loses, through any cause, much of its nervous force, so that it cannot stand upright with ease and comfort, it leans upon the nearest and most convenient artificial support. * * * Anything that gives ease, sedation, oblivion, such as chloroform, chloral, opium or alcohol, may be resorted to at first as an incident and finally as a habit. Such is the philosophy of opium and alcoholic inebriety. Not only for the relief of pain, but for the relief of exhaustion, deeper and more distressing than pain, do both men and women resort to the drug shop.

To the increased predominance of the nervous temperament, to the insatiate demand of an enfeebled nervous system for some excitant which shall enable it to triumph over its weakness, it seems to me, is largely due to the increased consumption of stimulants, narcotics and hypnotics in recent years.

This then being the underlying condition we can understand that the three most important factors in the causations of drug habits, pain, exhaustion and insomnia, will often be met with aside from any organic disease, and that the use of drugs for the relief of these symptoms will correspondingly increase. If to these causes, some of which are the outcome of an impaired or unstable nervous system

we add those in which structural changes are present, we have an explanation of nearly every instance of drug habituation.

While it is true that those drugs which are capable of relieving exhaustion, insomnia or pain are the ones most liable to lead to the formation of the drug habit, yet we are at a loss to explain the peculiar power which some drugs possess of creating a demand for their continued use, while others may be taken almost indefinitely and discontinued abruptly without any special inconvenience. For example, I have given the bromide potassium for years and then suddenly ceased its use without difficulty. I have also had a patient who had taken sulfonal nightly for six months, and yet she suffered no special inconvenience when it was abruptly suspended. The insomnia continued until relieved by other means, but there was no craving for the special drug.

On the other hand, the continued use of alcohol, chloral or opium, and in a lesser degree, of ether, chloroform, cocaine, paraldehyde and cannabis indica may, unless carefully guarded, become an imperative desire.

The three prominent symptoms—exhaustion, insomnia and pain, may each have its origin in widely varying conditions, but together or separately, they are responsible for nearly every case of the habitual use of drugs.

For the first of these—exhaustion, alcohol, or some preparation of which it is the chief ingredient, is most commonly employed. This is a most valuable remedy, but one whose administration is not always free from the danger of subsequent abuse.

I have elsewhere (*ALIENIST AND NEUROLOGIST*, April, 1888) referred to the alcohol habit. Its various phases are familiar to you all and I need not discuss it now, but it has always seemed to me that this drug should be classed among the poisons and should be prescribed with care and with due regard to the patient's hereditary tendencies and previous habits of life. The advice of Dr. Richardson is as sensible as it is scientific:

Prescribe it as a medicine; do not permit its use as a beverage. Prescribe it as alcohol from the dispensary; learn the exact amount that is required to produce the desired effect and then you will discover, and in no other way, whether the good effect attributed to the grog is due to the alcohol it contains or to some other agency.

This method of using alcohol in general practice in lieu of brandy, wine and other liquors containing alcohol, possesses the advantage of an exact usage while it lessens the liability of subsequent unauthorized use of the drug.

There would, I believe, be fewer cases of the alcohol habit if physicians would adopt the plan and also exercise the same care in the use of this drug that they do in the administration of other powerful remedies.

Insomnia is a condition which we are all called upon to deal with very frequently and he is indeed a skilled physician who can treat it successfully without the aid of drugs. Unfortunately this is not always possible and we are sometimes obliged to resort to the use of hypnotics. Chief among these, and the one most liable to lead to subsequent habitual use, is chloral. The consumption of this drug in society ranks next to alcohol and opium, although the chloral habit is neither so persistent or difficult of cure as the opium habit. Its formation is generally due to an unauthorized use from a physician's prescription, or in consequence of over-exertion in social or business life and the treatment of the resulting insomnia by the patient himself without regard to the real cause of the sleeplessness. The same is true of the lesser hypnotics, paraldehyde, urethan and sulfonal—more especially the latter—the use of which I think is increasing among the laity. The preparation known as bromidia has, in unskilled hands, done an immense amount of harm.

In many cases we have not so much to deal with the habitual use of any single drug as we have to combat the tendency of the patient to resort to hypnotics upon the slightest provocation.

If the sleeplessness was relieved by other means the use of hypnotics would soon be discontinued.

It is unfortunate that we are ever obliged to prescribe hypnotics unless we can also fully control the conditions of their administration. When this is possible it is comparatively easy to prevent subsequent habitual use, for the patient may then be carried to a condition of health in ignorance of the name or nature of the drug which has brought relief.

The danger of unauthorized renewal is also obviated if the physician, instead of the druggist, prepares the medicine.

With the class of patients which come under my care insomnia is very frequently met with; and when obliged to use hypnotics it is my custom to make very frequent changes and combinations with the remedies administered, to give them in gradually diminishing doses and under no circumstances to allow the patient to learn the name or character of the drug which he is taking. At the same time every effort is made to relieve the insomnia by other means and to discontinue the use of hypnotics as soon as possible.

Another symptom which we are very often called upon to relieve is that of pain. This is one of the most prolific causes of the drug habit, for the remedy which is most frequently prescribed is the one above all others, except alcohol, which is likely to lead to habitual use. Of 100 cases collected by Jouet the habitual use of opium followed its therapeutical use in thirty-two cases of ataxia, twenty-four of sciatica and other neuralgias, eight of asthma, two of dyspepsia, four of hypochondriasis, two of madness, seven of nervous conditions (not specified), seven of perostitis, one gastro-enteralgia, four of pleuritic pain, one of contracture and one case of hæmoptysis.

For its pain-relieving properties opium stands alone. It is also unrivaled in its peculiar power of creating a demand for its continued use, even after the original cause for its employment has ceased to exist. This fact cannot be too strongly emphasized, for many cases of the opium habit are undoubtedly due to the carelessness of physicians in the use of this drug.

During this summer I have had a patient who had been carefully instructed by his physician in the use of the hypodermic syringe. In two other cases the neglect of the physician to discontinue the morphia as soon as the necessity for its use had passed, resulted in the morphine habit.

Opium administered for the relief of pain during an acute sickness should not be prolonged into convalescence except with extreme care, and its administration should never be entrusted to the patient.

The galvanic current and the newer remedies, phenacetine, exalgine, antipyrine and others, although possessing feebler anodyne powers than opium, are less liable than this drug to subsequent abuse and should be substituted for it when possible.

There are in this country to-day thousands of individuals who have become enslaved to the habitual use of stimulants, narcotics or hypnotics. Whenever the craving for any drug exceeds the power of self-control it seems to me that a positive condition of disease is present. Perhaps not always characterized by changes discoverable by the microscope any more than in many cases of insanity, but an abnormal condition of the nerve centers exists demanding stimulation or sedation.

This is at best difficult to deal with, but especially so unless we are able to absolutely control all the surroundings of such patients while under treatment and for quite a long period of time. The details of treatment will, of course, vary with the individual, but in nearly every case a general depression of the bodily health will be found, which will need careful attention.

Unlike alcohol, opium seldom produces any structural changes, but relapses are very common, and the complications met with in the treatment of the opium habit are usually more difficult to deal with than those resulting from the disuse of alcohol or chloral. The intense and distressing restlessness, the persistent diarrhea, the insomnia, then neuralgic pains and general feeling of *malaise*,

the terrible craving which will not be denied and which leads the patient to all kinds of deceptions for relief: these all tax the resources of the physician to the utmost and emphasize the necessity of special arrangements for the care of this class of patients. When this can be obtained the majority of cases of the opium habit, I believe, can be cured, unless there is some organic cause for the use of the drug. In this case the prognosis is very doubtful. It will be well, however, to remember the tendency of these patients to return to their old habits upon the slightest provocation.

During the past few years eight cases of the opium habit have come under my care. Of these two were due to the discomforts of pregnancy, two to headaches, one to injury of the knee, one as an antidote for cocaine, one to insomnia and one to a rectal fissure.

One patient, on account of business engagements, was unable to remain long enough to complete the treatment. Another case in the later stages of phthisis, I declined to treat. The remainder were successfully treated, but I regret to add that nearly all relapsed into the old habit after a while, three of whom returned for a second treatment.

In conclusion, I would remark:

(1.) The facility with which nervous processes repeat themselves constitutes the organic basis of habit. The nerve cells becoming fixed in the direction in which they are constantly exercised.

(2.) The continued use of certain drugs, notably alcohol, chloral and opium, may establish an abnormal condition of the nervous centers which is in itself a constantly recurring plea for their habitual use.

(3.) The three most important factors in the formation of drug habits are exhaustion, insomnia and pain. These symptoms are frequently the outcome of an impaired or

unstable nervous system and of improper methods of living.

(4.) Drugs for the relief of these conditions should be prescribed with care and with due regard to the danger of subsequent habitual use.

(5.) The treatment of drug habituation is unsatisfactory unless all the surroundings of the patient during treatment can be absolutely controlled by the physician in charge. Relapses are quite common.

TUMOR OF THE CEREBELLUM.*

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THE subject of Tumor of the Cerebellum is important on account of the relative frequency with which tumors occur in this locality and, also, because they can in many instances be localized with sufficient definiteness to warrant an attempt at removal. It has only been of recent years thought possible to localize growths of the cerebellum and many modern writers pay very scant attention to the subject. Even such an acute diagnostician as the late Hilton Fagge expressed doubt as to whether localization of cerebellar tumor "is not due sometimes to luck rather than skill." A careful review of the reported cases of the past half-dozen years will show that it is entirely possible to localize definitely growths of the cerebellum. Of course, we know that now and then an autopsy reveals a large tumor of the cerebellum which had apparently produced no symptoms during life, yet we can't help feeling that if a more careful examination of the patient had been made symptoms might have been elicited which would have revealed the nature of the case.

The relative frequency of tumor of the cerebellum is well shown in the collection of cases cited by Gowers. In 650 cases of tumor, 295 were in the cerebrum and 179 in the cerebellum. If we consider the much smaller size of the cerebellum it becomes obvious that it is more liable to new growths than the great brain. Tumors of the cerebellum may occur at any age, though they are more common in early adult life. Certain forms, as we shall see, are peculiarly likely to occur in the first decade.

* Read before the Clinical Society of Maryland.

As to the variety of tumors, we may have, first, those dependent upon a certain diathesis, as tuberculosis and syphilis. Tubercular growths are more often met with in the cerebellum than in other parts of the brain and are especially common in children. Hale White says, bearing in mind the autopsies at Guy's Hospital: "A cerebellar tumor in a child is almost certainly tubercular." Tubercle may invade the brain from the meninges or may take its origin in the adventitia of the vessels. In the brain it forms a roundish mass known as *solitary tubercle*. Very often tubercular disease is present elsewhere in the body.

Syphilitic tumors are not infrequent and occur after the acquired, and possibly also after the hereditary form of the disease. The growth or gumma takes its origin from the meninges, but often extends into the substance of the brain. When found in the substance of the brain its origin can generally be traced to the meninges. Glioma is a very common form of tumor of the brain, met with more often in the cerebrum than in the cerebellum. It is made up of branched neuroglia cells and often closely resembles sarcoma. It may form a firm mass or exist as a soft infiltration. Several varieties of this tumor are found as gliosarcoma, gliomyxoma, etc.

Sarcoma is often met with, the most common variety being the spindle cell. Many other varieties of tumor are occasionally found in the cerebellum: carcinoma, fibroma, parasitic cysts, etc.

When we come to study the symptomatology of tumor of the cerebellum we must first consider one general symptom which is more or less common in all forms of intracranial growth, namely, pain. It is this symptom that is usually first observed by the patient and for the relief of which advice is sought. The nature of the head pain is sometimes dull and boring, at others agonizing in its intensity. The noticeable feature is its constancy. There are exacerbations and remissions, but at all times more or less distress. When a patient complains of

persistent pain in the head, lasting for months or years tumor of the brain is always suggested. The pain may be distinctly frontal or occipital, or may be general without any definite seat. As a general rule, to which however, there are a good many exceptions—the pain in cerebellar disease is occipital. It is hard to say just what causes the pain. Very often it is due to pressure on the meninges, or to general intracranial pressure. Moderate compression of brain substance would not seem to occasion pain. The value of the location of the pain is not very great in general, but seems to be worth more in determining tumor of the cerebellum than tumor elsewhere. In a very considerable proportion of cases of tumor of the cerebellum the pain is distinctly occipital and is often felt in the back of the neck. In most instances this is due to direct pressure upon the tentorium. Tenderness on percussion, if carefully done, is of value, if the skull is gone over with a percussion hammer, making light, regular taps. Very often a certain area shows a markedly greater sensitiveness. I have confirmed this fact in a number of instances, not only in tumor of the cerebellum, but tumors located elsewhere in the brain, especially if the growth be near the surface. Very soon in the course of the disease is noticed the peculiar staggering, drunken gait, cerebellar titubation. It differs very markedly from the high-stepping gait of tabes or the unsteadiness produced by paralysis of various kinds. It resembles the attempts at walking made by a person who is recovering from a prolonged and exhausting disease. There is great uncertainty in movement, an impossibility to preserve the equilibrium. What the cause of this disturbance of locomotion is, has been a matter of some dispute. Hughlings Jackson attributes it to paresis of the spinal muscles. It would seem to be due in some cases, or at least to be exaggerated by loss of muscular sense. It would be safe to say that the vertigo, loss of muscular sense in some cases and, perhaps, some weakening of the spinal muscles, combine to produce the

peculiar gait. Closing the eyes has little or no tendency to increase the motor disturbance. Rotary movements and movements of *manège* are met with.

Disturbance of equilibrium results, according to Nothnagle, only when the middle lobe is involved or compressed. While the conclusions of Ferrier and others in regard to the tendency of an animal to fall toward the side of the injury of the cerebellum can hardly be fully accepted in the case of disease of the human cerebellum, they would seem however to hold to a certain extent. Particularly is this the case, I think, when the lesion affects the middle, and perhaps the other peduncles. If the lesion involves one lateral lobe, pressing on the middle lobe from that side and involves the middle peduncle of the same side, there is a most decided tendency to fall toward the side affected. Pressure on the middle lobe alone causes a tendency to fall either forward or backward rather than to either side. The older experimenters (Flourens, Renzi) claimed that destruction of the anterior part of the middle lobe caused the animal to fall forward; of the posterior portion, to fall backward. In one of the cases I report the tendency was invariably to fall backward. This was carefully and repeatedly tested and the autopsy showed a tumor pressing upon the anterior portion of the vermis. In another case the patient would always fall to the left, and in this case the tumor compressed the left middle peduncle and impinged upon the left side of the vermis.

In certain cases muscular weakness is decided, but distinct hemiplegia is not common. We may, of course, have a tumor so situated as to compress the crura cerebri and consequently may have all varieties of motor and sensory disturbances. Vomiting is a prominent but by no means a constant symptom and would seem to be due in some cases to the intense pain. Sexual excitement or perversion, which the older writers attributed to disease of the cerebellum, is rarely if ever present.

The deep and superficial reflexes are, as a rule,

unaltered, though to this there may be exceptions, since the motor tract may be involved. In a few cases the deep reflexes are lost, though there can be no very satisfactory explanation of this phenomenon given—more often the deviation from normal is towards exaggeration of the reflexes.

Sensation is not affected except in the case of pressure upon the cranial nerves and in the very rare instances when the sensory tract is involved, either by direct or indirect pressure. A symptom that has not been often mentioned in the reported cases, is loss of muscular sense. In one of my cases it was distinctly marked and present to a slight degree in two other cases. A very valuable symptom of cerebellar tumor is optic neuritis. Of course, optic neuritis is not more characteristic of tumor of the cerebellum than of other intracranial growths. Space does not permit any discussion of the moot question of the part played by the new growth in producing this change in the optic nerves, whether by general intracranial pressure or by inflammatory action. It is important to bear in mind the fact that there may be a very considerable degree of optic neuritis without any very apparent interference with vision, hence an ophthalmoscopic examination of the eyes is of great importance in any case of suspected intracranial growth. Moreover, in doubtful cases it is best that the examination of the eyes be made by a skillful person. When the condition is well marked it is not difficult to recognize, but in early and slight cases it is sometimes hard to say whether there is any neuritis present or not.

Hale White, in the paper referred to, says: "We may conclude that optic neuritis is rarely if ever absent in cerebral tumors," using the term "cerebral" to include also cerebellar growths. Nystagmus is a very frequent symptom of cerebellar tumor, but is not met with in all cases. Hearing may be affected either by pressure upon the auditory nerve or its nucleus. The third nerve may occasionally be involved, causing paralysis of ocular muscles.

and also the fifth by indirect pressure—in fact, we may have almost any of the cranial nerves involved—so wide-spread may be the indirect pressure of a tumor of the cerebellum. Cases have been reported in which the sense of smell was lost, from pressure by a growth in the cerebellum. One symptom that I have noticed in several cases and a symptom often met with towards the termination of the patient's life, is pressure on the medulla, interfering with the centers of respiration, deglutition and the vasomotor center. General convulsions have been noted, but are not common. Rigidity and tonic contraction of the muscles of the neck, drawing the head backward, is often seen and may be said to be characteristic. Of course this symptom is present in other conditions, particularly when the meninges of the brain or cord are involved. It was the only motor symptom in a case of tumor of the occipital lobe, recently under my care.

Slight mental disturbance is not uncommon, though most authors deny any decided mental impairment. In one of my cases there were furious maniacal outbursts. It is necessary, as has been pointed out, always to bear in mind the regional anatomy of the cerebellum, since there are so many important structures that may be involved or compressed directly or indirectly by a cerebellar growth.

As illustrative of the symptomatology of the disease, I report the following cases. The first case has been reported before, the other two appear for the first time :

CASE I.*—Male, age 36, white, mechanic, general health had always been fairly good, no specific history. Had an attack of *colica pictonum* but no neuritis followed. About eight months before admission into the hospital he began to have pain in the back of head and neck, and soon afterwards noticed some uncertainty and tendency to staggering in his gait. These symptoms increased very gradually. When first seen his condition was as follows: Very marked mental hebetude, although he could answer questions intelligently. Both sight and hearing were almost totally lost. Pupils moderately contracted and reacted only

* See *Journ. Nerv. and Ment. Dis.*, Vol. XIV., No. 4.

slightly to light; slight nystagmus. There was no paralysis of any kind, and patient's muscular strength was remarkably good considering his long illness. General sensibility was unimpaired. Muscular sense was practically abolished in both arms and legs. He was entirely unable to locate his limbs or to imitate the position of one with another. Reflexes superficial and deep, were all present though rather diminished.

Patient was totally unable to stand or walk. When helped upon his feet he would fall the moment the support was withdrawn, and always backward with no tendency to fall to either side. Complained of pain in the occipital region and nape of neck, and there was marked tenderness on percussion over occipital bone. The diagnosis of tumor compressing the middle lobe of the cerebellum was made and operation advised, which patient's friends refused. Death took place very suddenly and unexpectedly, probably through pressure on the medulla.

Autopsy, made twenty hours after death, showed a tumor the size of a small hen's egg, bilobed and pressing directly upon the vermis superior of the cerebellum. The tumor seemed to be slightly attached to posterior part of corpus callosum though not involving the structure of the latter, and flattened somewhat the corpora quadrigemina. It was also slightly attached to the falx and tentorium. The tumor pressed upon the vermis like a saddle, greatly compressing its anterior portion. Section of the hardened tumor showed, under the microscope, a certain number of very fine fibers running through the mass, with a few glia cells. There were many large round cells and some spindle cells, constituting what might be called a gliosarcoma. There were no other lesions in the brain. Meninges and cord normal.

CASE II.—Male, white, farmer, aged 25; family and personal history good. Says he has suffered with severe pain in his head since he was fourteen years old; was addicted to self-abuse. When admitted into hospital he complained of most intense, agonizing headache. Would lie generally on his face with his head buried in the pillow. At times his suffering was painful to witness. Had stiffness of neck and tonic contraction of muscles of neck, so that his head was often drawn backward. Was very unsteady on his feet and would fall unless supported.

There was no disposition to fall on one side rather than the other. Stands as well with eyes closed as open. Strength not impaired and muscles well nourished. Reflexes somewhat increased, with slight ankle clonus of left foot. Slight loss of muscular sense. No disturbance of general sensibility and no interference with pain sensations. Tenderness over occipital region on percussion. Paralysis of right internal rectus muscle with slight paresis of left internal rectus. No optic neuritis. Diagnosis of tumor compressing middle lobe of cerebellum was made. Patient was admitted June 30th and became rapidly worse. Pain grew more intense and symptoms of pressure upon medulla appeared. Respiration became irregular and deglutition grew difficult. Operation was considered but was advised against as it was thought the tumor was inaccessible. Patient died July 12th and autopsy showed a tumor not larger than a pigeon's egg, attached slightly to the anterior medullary velum and superior peduncles, growing into and compressing the vermis. The tumor was of rather firm consistency and microscopic examination showed it to be a sarcoma. There were no other lesions in the brain.

CASE III.—Male, white, aged 52; farmer; family and personal history good. About two years before admission into hospital he began to notice some difficulty in walking with some, though not very severe, headache. Six months ago lost sight, which has been gradually failing. Has a marked drunken gait and is unable to stand with feet together. Tends always to fall to the left, and when supported just enough to prevent falling deviates markedly to the left. Complains of pain in occipital region and there is marked tenderness on percussion over left occipital region. There is some stiffness of the neck with tendency to drawing of the head backwards. No loss of general sensibility, with the exception to be noticed later. Slight loss of muscular sense. Slight increase in patellar reflex; no ankle clonus. No loss of strength and no muscular atrophy. The ophthalmoscope showed double optic atrophy. Pupils stationary except when effort at accommodation is made. There was almost complete anæsthesia of left cornea. No paralysis of eye muscles. Four days after admission into the hospital patient became maniacal, attempted to jump from the windows and had to be tied in bed. Showed wild delirium with unsystematized delusions and hallucinations. Finally he fell into a comatose condition

with low delirium, disturbance of respiration, deglutition and of the vasomotor center. From the peculiar nature of the symptoms the diagnosis was made of tumor pressing on left middle peduncle or left lobe of cerebellum and slightly touching the pons at the emergence of fifth nerve. Patient died eleven days after admission into the hospital and the autopsy showed a tumor the size of a small hen's egg, pressing on the middle peduncle of cerebellum, compressing the left lobe and slightly flattening the pons just at the emergence of the fifth nerve. There were no other lesions.

Several other cases of probable tumor of the cerebellum have lately come under my care—one in a boy about 15, which proved rapidly fatal. Unfortunately there was no autopsy. Another, probably tubercular, in a negro child, female, aged about 6 years. This latter case is still under observation.

The three cases above mentioned will illustrate very well the symptomatology of cerebellar tumor and tend to confirm in a slight degree, the position taken, that it is possible to localize tumors of the cerebellum with some degree of exactness. It is to be noted in the three cases given that there was rather a notable absence of the history of vomiting. While two of the cases said they had occasionally vomited during the course of their disease, the symptom was not prominent enough for them to allude to it without questioning.

In regard to the course and prognosis of tumor of the cerebellum little need be said. The course is progressively towards a fatal termination. Two years might be put as an average limit. One of my cases gave a history of intense headache for more than ten years previous to the time he came into the hospital and it is reasonable to suppose that in this case there was a slowly-growing tumor.

Osler reports a case lasting fourteen years. Often the apparent duration is only a few months. Possibly a very small number of syphilitic tumors are cured by treatment, but even when we have an undoubted syphilitic growth we

often fail with antisyphilitic remedies. This being the only variety of tumor that even theoretically can be benefited by medication, we should always try vigorous treatment. Experience has taught me that the best treatment for syphilitic affections of the central nervous system is mercurial inunction combined with or followed by heroic doses of iodide of potassium.

Autopsies have shown that we may occasionally have tumors situated in the lateral lobes of the cerebellum without producing any symptoms and these tumors become encysted and probably exist for many years without doing any harm.

The most interesting question that can be raised regarding tumors of the cerebellum is whether they can be removed surgically. The results of intracranial surgery, brilliant as the operations have been, have not realized the great expectations that were raised by this daring interference. In the case of brain tumor, however, surgical interference is not simply the last resort—it is the only resort. The dangers of operations on the brain have been reduced to a minimum and it is the duty of every physician to put the case plainly before his patient and not waste valuable time vainly exploiting the hopeless theory of absorption. While a very considerable number of tumors have been successfully removed from the cerebrum, the writer has not seen (up to the time of writing) the report of a single case in which a tumor had been successfully removed from the cerebellum. A few cases have been operated on, two reported by Suckling, one by Horsley, with a few others, the details of which I have not been able to obtain. In Suckling's first case the operation was performed by Mr. Jordan Lloyd upon a girl aged 12. The tumor was a soft infiltrating glioma and hence could not be removed. The second case was operated on by Bennett May. It was a boy aged 7, with a tumor in the substance of the left hemisphere of the cerebellum, about an inch below the cortex. The operator says of the operation: "Actual procedure found

extremely easy of accomplishment and of no great severity." He states his belief that the operation would have been successful had it been attempted earlier. The third case is by Victor Horsley. Male, aged 18, tumor of right lobe of cerebellum, died nineteen hours after operation. One important point in the technique of the operation is to enlarge the original trephine opening so that the parts may be easily explored and reached. Much more harm is done by working through a small trephine hole than results from a large opening made with saw or chisel. In the cases I have reported, the first case, I am sure, offered a very easy operation. The tumor was small and slightly attached and its removal would have involved the destruction of only a small portion of the cerebellum. The second case was not a suitable one for operation.

The third case presented greater difficulties than the first, but could, I think, have been removed. Two of these cases, first and third, were perhaps rather exceptional, since they both had slight attachments to other structures than the cerebellum, yet they involved mainly cerebellar tissue and the symptoms were practically all due to pressure upon the cerebellum.

The Epidemic Inflammatory Neurosis; or, Neurotic Influenza.*

By C. H. HUGHES, M. D., of St. Louis, Mo.

CERTAINLY sufficient clinical experience has now been obtained by reliable observers the world over to assign to the prevailing epidemic of influenza a place among the inflammatory neuroses. French, English, German, Italian, Russian and American writers have noted the prominence, and often persistence of the nervous symptoms, discussing them generally as *sequelæ*. The initial and concomitant symptoms of influenza are so markedly those of a toxic inflammatory neurosis expending itself chiefly on the nerve coverings, nerve endings and mucous membranes, that this aspect of its symptomatology and pathology will probably not be gainsaid by anyone. The nerve centers too are so plainly involved as to need no proof other than what has been already offered by general clinical experience, so that its neuropathic and psychopathic accompaniments and sequences are the conditions obviously to be combated. It is a disease in the management of which the diagnostic and therapeutic experience of the neurologist and the alienist ought not to be ignored.

Dr. George H. Savage, whose long experience in the observation and treatment of the insane qualifies him to speak advisedly of what he has observed of this epidemic, says:

Influenza, like other fevers, may set up psychopathy. Insanity may come on at various periods of the disease. It may start any form of insanity. It may be the predisposing or exciting cause.

He thinks in all cases there is some acquired or inherited predisposition.

* Read before the St. Louis Medical Society, January 30, 1892.

The insanity follows from altered brain nutrition, possibly toxic. The onset of insanity is often sudden and bears no relationship to the severity of the influenza.

While another English alienist, equally eminent, notes that the epidemic appears of a very virulent type, the mortality being very high, especially among the profoundly nerve-exhausted general paralytics of his famous institution at Morningside. Dr. Thomas Aitken, Medical Superintendent at Inverness, thus describes the effect of the epidemic fever among his patients:

* * * In five of the cases there were distinct mental symptoms. In two of the attendants there was wandering and for one night a condition bordering on delirium; whilst an old epileptic, who refused her food, believing that poison was introduced into it, became restless and suspicious; another, an aged woman, of a pleasing and gentle nature, recently admitted, who had previously suffered an attack of influenza in another asylum, became a profound melancholic; whilst the unsettled condition of another female patient passed into active excitement, which passed away with the attack.

In *Allgemeine Zeitschrift für Psychiatrie* (xvii. Band, 1 and 2 Heft) Prof. Kirn, of Freiburg, concludes "that influenza is a more frequent exciting cause of insanity than any other febrile affection." He has collected fifty-four instances observed by himself or other physicians. He classifies the cases which pass into insanity under two heads: 1. Where delirium occurs during the febrile condition of influenza. This frequently accompanies pneumonia. There are delusions and hallucinations, strange dreams, shouting of a joyous character, or howlings and lamentations. In one case, a boy of 7 years, the influenza commenced with mental aberration, the child wandering away without knowing where he was going. Patients affected with delirium during the course of the influenza were rarely found to have any hereditary predisposition to insanity. The patient generally recovered from the mental derangement in a few weeks. In the second, or post febrile form, Dr. Kirn had the details of thirty-nine cases. The insanity generally appeared in from four to

eight days after the cessation of the fever. In two it came on as late as three weeks after. From the clinical symptoms he divides them into three forms, characterized by the conditions of mental exhaustion, melancholia and mania. The exhaustion is of the same character as those cases in which the constitution of the patient has been reduced by fevers to the puerperal state. There is excitement suddenly appearing, with confusion of the senses and a tendency to depression, with delusions of a dismal character. If the delirium becomes higher, there are delusions of the senses, rapid changes of mood and tormenting thoughts. The bodily condition is one of weakness and anæmia. Recovery generally sets in in from three to six weeks. The second, or melancholic form, is the commonest. Dr. Kirn collected twenty-two cases. It seems a kind of exaggeration of the depression and disquiet of the ordinary convalescence from influenza. Sleeplessness is the first striking symptom, then discontent, with reproaches against the attendants and distrust and suspicion against the physician. The patient is hypochondriacal, or fears ruin, loss of money or loss of honor, and occasionally there are attempts at suicide, frightful hallucinations, painful delusions and refusal of food. The prognosis is good. Recovery, as a rule, takes place in six or eight weeks, though it is sometimes delayed for several months. He studied six cases of mania following influenza. They presented the symptoms of simple typical mania without hallucinations and without delusions. The delirium generally commenced about a week after the invasion of the influenza. Recovery generally supervened in from six to eight weeks.

All observers hold, with this writer, that the toxic matter of the influenza has an injurious effect upon the whole nervous system and that it acts most powerfully upon those who already have a hereditary tendency to insanity. He found that 54 per cent. of those who became insane labored under this predisposition.

Dr. Schmitz, in a paper on "Insanity After Influenza"

(*Zeitschrift*, xlvii. Band, 3 and 4 Heft), gives as his conclusion that influenza is mainly an epidemic nervous disease.

In the *Deutsche Medicinal Zeitung*, in the *Deutsche Medicinal Wochenschrift*, *Allgemeine Zeitschrift für Psychiatrie*, *Glasgow Medical Journal*, and in other German, English, Russian and in several French journals of recent date, appear articles of similar tenor. In the majority of cases recorded, where insanity followed the attack of influenza, it was of the melancholic or hypochondriac form, preceded by acute delirium and, as might be expected, the preponderance of this psychosis was in previously neurotic subjects. Insanity may come on at any stage of the influenza, but it usually appears during the period of convalescence, while the nervous symptoms set in at the beginning of the disease, or at any time during its progress or convalescence. The most marked and persistent sequelæ are insomnia, neuralgias, neuritides, and neurasthonia and its symptoms, neurasthenia and cerebrastrhenia.

Dr. Julius Althaus, in a recent paper in the *London Lancet*, November 14, 1891, an excellent epitomized analysis of which appears in the editorial pages of the *Boston Medical and Surgical Journal* for December 10, 1891, on the neurotic character of the grip, says :

It is always a true nervous fever, the symptoms of which only differ as far as localization of the grip-toxine in different areas of the nervous system is concerned, and that all the symptoms of the feverish attack of influenza are referable to irritant poisoning of a definite center of the nervous system. Shortly after the visitation of influenza had commenced a number of patients complained of severe forms of neuralgia, loss of power and a general break-up of the nervous system, which they attributed to an attack of *grippe*. Some of these patients had been in perfect health before, while in others a neurotic pedigree or a previous syphilitic infection, or some other constitutional fault could be clearly traced, upon which the subsequent nervous affection had, as it were, been grafted. In comparing those nervous troubles which may be met with after such diseases as diphtheria, typhoid fever, scarlatina, small-pox, measles, erysipelas and malaria with those seen after influenza, it soon became evident that as a powerful etiological factor of all kinds and forms of nerve disease influenza stands *facile princeps* among all infec-

tious fevers. A clinical survey of the symptoms of the feverish attack, such as headache, utter prostration of mental and bodily strength, delirium, coma, convulsions, etc., points unmistakably to the nervous system as their starting point. In the London epidemic, the fact that catarrh of the mucous membranes and pneumonia have been completely absent in a large proportion of cases (Indeed, many patients have had influenza badly without having once coughed or sneezed), shows it to be not so much an infectious catarrhal fever, as has been generally assumed, as an infectious nervous fever.

But the sneezing and catarrh, when they are prominent, do not militate against the conclusion of nervous implication, but only further prove it.

Dr. Althaus also remarks on the power of *la grippe* to revive a dormant syphilis and to bring into activity certain syphilitic diseases of the spinal cord.

The similarity of the symptoms in all cases, are suggestive of grip-toxine, as Althaus calls the poison of the epidemic, the neural symptoms being somewhat modified by climate.

The epidemic reported by Medin, of Stockholm, before the Tenth International Congress (*vide* "Transactions," and *Centralblatt für Klinische Medizin*, September 5, 1891), in which, within five months, forty-four cases were observed in previously healthy children, was probably a form of the *grippe*. In the febrile stage there was generally fever, somnolence, dyspepsia, constipation, rarely vomiting and diarrhea, and paralysis.

The fever and somnolence lasted in some cases several days after the onset of the paralysis, but further paralysis did not take place after the fever had disappeared. Facial monoplegia was noted in three cases and facial paralysis with poliomyelitis and polyneuritis in another five. Abducens paralysis was present in five cases, twice together with ordinary poliomyelitis, once at the same time as polyneuritis, once in a case of polioencephalitis, and once in a fatal case. All the nuclei in the pons and medulla corresponding morphologically and physiologically with the cells in the anterior horns of the spinal cord, were at times affected.

In the discussion, Heubner characterized it as an infectious disease, and Henoch also spoke upon the striking identity of the cases and the presence of so many cerebral symptoms.

In the discussion before the Medical Society of London, following the papers of Drs. Althaus and Savage, on December 14, 1891, Dr. Symes Thompson, after remarking on the fact occasionally noted that a pre-existing insanity had also sometimes disappeared after supervention of an attack of *grippe*, just as any great shock, such as a fall from a second story window, might drive away a brain trouble, and recording a case of herpes following the course of the fifth nerve after an attack of influenza.

His father, the late Dr. Theophilus Thompson, had collected much historical evidence on the nervous side of this ailment. In the epidemic of 1836 and 1837, the indications of its connection with nervous disease became clear. Graves probably was the first to point out, though Blackiston divided the honors with him, that the pulmonary affections were due to the removal of the nerve control from the lung—to a serious morbid influence on the vagus nerve. Again in 1847, Dr. Peacock drew attention to the fact that lowered vitality of the nerve centers was one of the chief characteristics of influenza. They had evidently noticed the points which Dr. Althaus had emphasized. His father had assumed that there might be some connection between the spread of the disease and the distribution of low forms of animal life; the microbic theory not then prevailing as it does now.

Dr. Symes Thompson considered that the cases of extreme dyspnoea in the early stages of the disease, without manifest pulmonary signs, pointed to lesion of the vagus nerve. He had seen two fatal instances from exposure to cold during the second week of the illness. Those cases of tachycardia in which the heart ran up to 200 or more per minute, and in which recumbency was so essential on account of tendency to

cardiac failure, also pointed to nerve lesion and Dr. Ord's recent paper on the cardiac conditions associated with gastric symptoms, was worthy of thought in this connection. In influenza the gastric complications were of the nature of a crisis and the attacks had something in common with sea-sickness, a desire to be left alone or to die, being often expressed. Dr. Bezley Thorne held that the fever and the initial symptoms were matters of little importance, but that after the invasion was over the nervous system became occupied by a poison which might remain for weeks or years. One salient feature of this occupation of the nervous system by poison was a prolonged congestion of the vessels of the cerebro-spinal system. In early cases he had found that two-thirds of the females exhibited this spinal tenderness, while of the males one-third show the same symptom; the disease, therefore, could not be limited in its incidence to the medulla oblongata. He had noticed radiating symptoms. If he percussed over the cervical vertebræ, pain was referred to the neck, and so on lower down the trunk. He held that every case should be treated as one of cerebro-spinal concussion, and kept in the recumbent position. He had known carriage exercise, prematurely indulged in, to produce neuritis, and he had observed loss of heart power, or other symptoms of cerebro-spinal meningitis, to develop. Influenza was followed by a period of vital depression, which was one of great danger: the temperature might be markedly subnormal, and the condition of the patient so extremely weak as to necessitate keeping them lying down.

Dr. Savage said it was remarkable how often of late he had noticed that melancholics with a rapid pulse had a previous history of influenza.

The nervous system of the eye in this disease has engaged the attention of Dr. John E. Weeks, who discusses *la grippe*, in the *New York Medical Journal* of August 8th, 1891, as a cause of retro-bulbar neuritis. The following are his conclusions:

1. Neuritis of the optic nerve due to *la grippe* is of relatively rare occurrence. It may affect one or both eyes, and may produce partial transient impairment of vision, partial permanent impairment of vision or absolute permanent blindness. 2. Failure of vision begins from three to fourteen days after the commencement of the attack of *la grippe* and proceeds quite rapidly. 3. The form of scotoma produced is probably dependent on the position of the neuritis in the course of the nerve from the globe to the chiasm. If immediately behind the globe the muscular fibers are affected; if near the optic foramen, the peripheral fibers suffer first. 4. Treatment has little effect to promote cure. If recovery follows, it takes place spontaneously and accompanies improvement in the patient's general health. 5. The neuritis of motor nerve branches resembles those occurring after diphtheria and are mostly of transient character. They may occur in any or all of the nerve trunks pertaining to the eye.

The epidemic in St. Louis has been associated with a great deal of pneumonia; likewise in St. Paul, Kansas City, Louisville and Cincinnati, a likely complication in these Mississippi, Missouri and Ohio Valley cities, where malaria adds its depressing influence on the central nervous system to that of the grip-toxine or microbe. In Cincinnati, the veteran and accomplished editor of the *Medical News*, Dr. J. A. Thacher, recently very suddenly died of pneumonia and vagus paralysis after a few days of this disease.

Dr. Helfer Jahrbuch reports a case of astasia-abasia resulting from the epidemic, and I am not certain that the influenza has not been the cause of a case now under observation, in which I am undecided whether the apparent motor paresis is due to the cord or to neuritis.

The marked feature in my observation of this unique malady is the disposition it displays to bring out latent morbid predispositions.

Without a wearisome detail of cases, I may simply say that it has brought back to my office perhaps five per cent. of my dismissed cases of neurasthenia, neuralgia and neuritis, a number of cases of previously recorded insomnia and caused a relapse of some cases of syphilis of the nervous system; while the number of cases of malarial rheumatism and malarial neuralgia brought into activity

in persons previously exempt, has been one of the remarkable facts of this singular epidemic.

I have known cases of syphilis to return in cerebral and neural form after many years of quiescence, under its quickening influence.

It does seem that this poison tends to so weaken the nutrition of the nerve centers that normal resistance to inherent but abeyant, neurotrophic tendencies is destroyed and subdued nerve instability breaks out anew in acute form.

In the discussion before the London Society already alluded to, Dr. Althaus referred to a case in which a man, after two attacks of influenza, became melancholic and hemiplegic, passing into a condition of general paralysis, of the insane. Another patient of temperate habits, after an attack of influenza, developed a complete left hemianæsthesia. From this he recovered, but he has since died with all the signs of spastic spinal paralysis, which had developed much more rapidly than was the case in syphilis, and very justly concludes that while we had to deal in these cases with a large amount of local nerve disturbance, it was also combined with central nerve disturbance and it is this central nervous disturbance which brings into re-awakened activity the quiescent morbid tendencies, a previously subdued neuropathic instability, or excites in previously healthy nerve centers a diseased action *de novo*.

From a consensus, therefore, of all experience, it is plain that the influenza belongs more especially than elsewhere, in its symptomatology, at least, to the domain of neuropathology whatever may be its *materies morbi*, or microbe.

Following are briefly some of my cases:

A young man, aged 22, had the influenza last year and again this year, one month ago. Since the first attack he has been unfitted for business, has been debilitated and more sleepless than formerly. No pains, but simply general neurasthenia. Appears in good flesh.

A contractor, aged 51 years, was never sick or

incapacitated for business before an attack of *la grippe* a few months ago. Since then insomnia, vertigo and a constant tired feeling with inability to fix his attention on business, and the return of an old intermittent, have compelled him to give up his business.

A traveling salesman, aged 52, two months after *la grippe*, has persistent vertigo, insomnia, lumbar pains and constant aching in the dorsal spinal region, so that he seeks treatment and gives up his business.

A railway-car inspector living in East St. Louis, aged 54, after *la grippe* two months ago, has an old ague return, with loss of appetite, jaundice and hæmaturia, notwithstanding active anti-malarial treatment.

A railway employe, 40 years of age, convalesces from it with chronic lumbago and sciatica.

A married lady, mother of two children, having recovered two years ago of vertigo and the morbid fears of neurotrophia, after an attack of the prevailing epidemic, has a return of all her former symptoms.

A middle-aged business man of large affairs after an attack of the *grippe*, comes to me with vertigo, insomnia, pains in limbs and glycosuria, the latter disappearing after several weeks of treatment.

The brother of the above, two years older, in very active business, three weeks after the *grippe*, has constant aching over dorsum and sacrum, loss of appetite and nervous debility.

In my own person, after a slight attack of *la grippe*, in Boston, in August two years ago, hay fever symptoms appeared and persisted for some weeks, followed later by sciatica and abdominal neuralgia—symptoms to which I had hitherto been an entire stranger through life; and my wife remarked to day that she had not seen a well day since “that attack she had, whatever it was,” two years ago. It was the *grippe*, a former neuritis returning and persisting, also a rheumatism to which she had long been accustomed, recurring.

My son, Ray, was suddenly attacked two years ago by the epidemic, and these were his symptoms: High fever, temperature 104 Fah., intense head pain, pain in

ears, delirium, constipation, insomnia, severe aching in back and limbs, thirst, highly-colored and scanty urine and dry skin.

These symptoms were actively treated with phenacetine and quinine the first day, bromide of sodium at night, one dose salicylate of sodium the second day, with quinine (five grains) and bromide of sodium at night. Later ten-grain doses of salicylate of sodium were given every three hours (large doses for a child). All symptoms had disappeared by the third day, the fever left him after the first twelve hours, so that his brain was saved.

This outline of treatment is, in substance, the plan pursued in the acute attacks of all my cases, with the addition, sometimes, of special medication for complications and sequelæ.

A lady of fifty-two years of age, after two successful excisions of the mammary gland, twelve and thirty months ago, without apparent return, after an attack of *la grippe*, developed diabetic melancholia four months ago with delusions of impending destruction by electricity and loss of her bowels. The uterus and ovaries appear healthy, and the delusions and depressions have, for the time, disappeared under treatment and removal from home, a fact which contra-indicates the metastasis of the cancer to the brain. Neuropathic and psychopathic instability exists in her family, which another contra-indicates metastasis.

A lady after confinement and a seizure of the *grippe*, develops insomnia, extreme irritability and aversion to her husband, modified, but not subdued by codia, hypophosphites, chloral and tonics, but not yet overcome ten weeks from the attack.

A merchant in Iowa, two months after the *grippe* is melancholic, sleepless, and gives up business. He improves by leaving home and going under treatment, but is still anæmic and neurasthenic.

A patient who previously has had an eczema, has it return on him after an attack of influenza.

A patient who comes to me with cervical meningo-

myelitis and associated neuritis, and convalesces with partial paralysis of the left arm, has a history of an obscure and painful febrile attack in which boils or carbuncles (differently described by the two physicians who attended him) appear over his neck and body. The *grippe* was prevailing extensively in both places at the time of his sudden illness, six months ago.

A child of six years after an attack of influenza, develops epilepsy. His father was an inebriate and nervous.

Of the varying forms of bulbar paralysis recently under my care, several of them have been directly traced to the prevailing epidemic as the exciting or final cause, at least.

One of these was a physician, surgeon-in-chief of an important railroad system, in which this cause superadded to over mental work precipitated the paralysis, death resulting from pneumo-cardiac failure due to vagus paralysis after convalescence from the other bulbo-paralytic symptoms.

In another case, after about four months from the decline of the acute symptoms of the influenza, aphasia and glossopharyngeal paralytic symptoms set in, an old, long dormant syphilis being awakened into activity.

Another venereal patient who thought himself cured years ago, four months after the invasion of influenza, is now under treatment for hesitant speech, mental incapacity for his accustomed avocation, extreme nervous irritability, and general neurasthenia with neuritis, but no sugar or albumen in urine. Six months after the invasion, another case, after much improvement in the pharyngo-laryngeal and gastric enervation, shows persistent symptoms of general neurasthenia, with some neuritis.

Another patient shows hesitating speech, partial dementia, unequal pupils, one largely dilated, and paresis, with great self-satisfaction, though incapacitated for business. Later, partial epilepsy appears, giving a suspicion of a revived neural syphilis.

Still another with a former history of venereal poisoning, had speech failure, insomnia and unsteady gait, but is now convalescent under persistent specific treatment, quinine, phenacetine and electricity.

In short, the tendency of this toxic inflammatory neurosis is to shatter the nervous system, central and peripheral.

It is a severe strain on the inherent *vis medicatrix* which, in part at least, normally resides in the nerve centers. It tears open old neural wounds that have once healed and causes new ones to appear. It stirs up the neuropathic pool which is no pool of Siloam to the unfortunate victim. A Pandora's box of neuropathic woes seems to open after its advent and not to close with its departure. And while Althaus has called attention to the resemblance of *grippe* in its behavior to that of syphilis of the nervous system, many other observers, like Dr. Weeks, have likened its neuropathic sequences to the sequelæ of diphtheria as regards their amenability to treatment and tendency to ultimate recovery under proper treatment. This is my own view and experience also. It seems to be rather adneuronal than intraneural in its effects upon the central nervous system, the bacillus of Pfeiffer and others* (if it be due to a microbe), producing an adventitious rather than intraneural effect, which seems capable, in most cases, of removal; such, at least, has been the practical experience of others as well as myself, judging from the yielding of the neuritides generally, and often of the paralyzes to treatment.

In conclusion, the lesson I think I have learned from personal observation of this epidemic in its effects upon my own patients is: That it is, in its incipiency, as well as its sequences, a toxic neurosis; more largely adneuronal than intraneural (though the fatal ending of Althaus's cases of paralysis would point to intraneural lesion also); that the neuropathic lesion, central or peripheral, are rather more prone to recover than other similar and apparently as grave nervous lesions occurring before the epidemic appeared; that its neuropathic sequences act more like the post-diphtheritic nervous diseases in regard to curability; and that it brings to the surface and into

* *Vide Appendix.*

vicious activity latent neuropathic and other organic morbid aptitudes.

The *rationale* of its successful treatment consists in anticipating and combating whatever disease the patient may be prone to: gouty, rheumatic, malarial or venereal.

The best medicine in its treatment in my hands have been phenacetine, quinine, the salicylates, iodides, and bromides, according to the prominence of symptoms. Generally phenacetine and quinine in the beginning for two days, with bromide of sodium at night, drachm doses; after the second day, the salicylates and iodides, continuing bromides at night so long as there is restlessness or insomnia and the phenacetine so long as temperature may be exalted and also always an initial mercurial cathartic or laxative.

This therapeutic outline being modified according to the *rationale* of recurring or continuing indications.

P. S.—Since the above paper was written, we have seen an undoubted case of chorea in a small child of five years developed *de novo* after an attack of *grippe*.

APPENDIX.

Apropos of the preceding paper we append the following communication of Messrs. Cornil and Chautemessy to the Academie de Medicine:

ON THE MICROBE OF INFLUENZA.—Mr. Babes, in a work on the "Microbes of Influenza," which appeared in the *Centralblatt für Bactereologie*, 1890, described a little bacillus, having the form diploique, with two extremities slightly swollen, a very small bacillus, of two to three millimeters in thickness, not colored by Gram's method and which he (Mr. Babes) regarded as playing a great part in the etiology of the disease. He calls it the transparent bacillus.

In our "Traité des Bactéries" (t. II., pages 563 and 564), we have reproduced this description, viz., the char-

acter of the cultures, which are pale, transparent and slightly marked on the gelatin and the pathogenical action of the microbes in the rabbit. We have represented these in our photographic plate IX., figure 6.

M. Kowalsky, of Vienna, published since Mr. Babes, the description of a microbe found in influenza, very much like that of Mr. Babes', with this difference, that from the potato he obtains the thickest cultures.

M. Pfeiffer, of Berlin, last year inserted in his photographic atlas of bacteria, in progress of publication, a figure of a microbe of influenza, to which lately he has given a more complete description. His photograph, feature for feature, resembles that which Mr. Babes published in our "*Traité des Bactéries*."

According to Messrs. Pfeiffer and Canow, the blood of the subject afflicted with influenza containing the little bacteria of this disease, is inoculable in the rabbit and the ape.

Here is a preliminary note relating to our researches:

From a child afflicted with febrile influenza he took some drops of blood and inoculated them into an apparent vein of a rabbit's ear. The blood of the rabbit was held in for some days after, the microbes responding to the description of Babes-Pfeiffer, very small and more difficult to be seen than those of the septicæmie of the rabbit, which are of less length, colorable by the blue of methylene and the solutions of Ziehl. Their length is about one-twentieth of the diameter of a red globule of blood. The blood of the rabbit inoculated on the sugared gelatin produced around the sanguineous striæ a narrow clear material containing very fine bacilli.

A first culture serves to inoculate a second rabbit in whose blood the bacilli present the same morphological appearance.

The blood of the rabbit after standing for twenty-four hours in a sugared or sweetened broth, was then inoculated into an ape by depositing some drops in the nostrils. The following day the animal had a higher temperature,

excessive diarrhea, then sinking, tendency to sleep and feverish fit, which lasted many days, followed by a light *hypothermie*.

These results appear to confirm those obtained by Babes, Pfeiffer and Canon, who represent influenza as an infectious disease, caused by a singular *bacterium*, from its form, its manner of coloration and its culture.

Nevertheless we do not believe we are authorized to pass a definite opinion on the nature of the pathological agent of the disease. The facts are too numerous to mention. The clinical symptoms of the disease communicated to animals do not sufficiently resemble those of mankind to entertain the conviction.

Finally, we have not succeeded in obtaining cultures in series, which are indispensable in specifying these *micro-organisms*.

The discovery of the microbe of influenza brings a notable acquisition to the diagnosis, *prophylaxis* and treatment of this disease.

Pessimism in its Relation to Suicide.

By WILLIAM W. IRELAND, M. D., Scotland.

IS the commission of suicide compatible with a sane mind? Perhaps the reason why this question is kept open is that in many Christian countries the suicide is denied religious rites at burial. In England a coroner's jury is inclined to bring in the verdict that the person committed the act of self-destruction while of unsound mind, in order to secure interment in consecrated ground. As in Scotland the suicide is allowed burial in the churchyard, such discussions are not so common. There is no doubt that a large proportion of those who make away with themselves have previously shown symptoms of insanity. From the statistics furnished by Morselli in his classical work, "*Il Suicidio*," it appears that the proportion is about one-third. But to argue that self-destruction is in itself a proof of mental derangement, or that it never occurs with a sane person—this is contrary to many things in history and human nature. As might be expected, the frequency of suicide is much influenced by religious belief. It is found to be less common amongst the followers of those faiths which expressly condemn self-murder. It is much rarer in Catholic countries, such as Spain and Southern Italy, than in Protestant countries. On the other hand, the proportion of suicides is highest in great cities, like Paris, Berlin and Vienna, where materialistic views are rife. Self-murder is strongly condemned in the Koran, hence it is rare in Mahomedan countries, though Mussulmans are encouraged to give away their lives in battle in defense of the faith. It does not appear that the Buddhist religion encourages suicide; nevertheless it does not act as a deterrent, as death holds out the prospect of a change of being, hence suicide is

much commoner amongst the Chinese and Japanese than with other nations.

In a paper in the *Irrrenfreund* (Nos. 1 and 2, 1891), by Dr. Mossa, the tendency of pessimism to make people anxious to get rid of their lives, is illustrated in a striking manner. Dr. Mossa observes that the crass materialism of the day has placed the revolver in the hands of many of its young disciples after they have drained the cup of sensual pleasure and have suffered shipwreck in estate and character. To such a one life is indeed the highest good, but it must be a pleasing life. The cessation of being appears to be preferred to a wretched existence. The otherwise noble tenets of the Stoics gave the right and, indeed, enforced the duty under some circumstances to part with life. When its disciple could not live in a position befitting the dignity and honor of philosophers, the Stoic gave the advice: *Patet janua, exi*; "The door is open, go out."

The philosophy of Arthur Schopenhauer teaches that life is not the highest good, but the worst evil and on this account the will to live should be kept under. It need not, therefore, excite our wonder if some of the highly gifted minds, over whom pessimism has power, should be tempted to part with a life which seems to them so gloomy. It looks absurd that a man like Schopenhauer should take the trouble to write a book in two volumes to prove that everywhere men are miserable and that he should even be at the expense of publication, telling men at the same time in the preface that he was indifferent to their good opinion. Surely the effort to find and point out the good, the beautiful and the happy in life, however strained, is better than these chapters of eloquent grumbling.

Wisdom, though richer than Peruvian mines
And sweeter than the sweet ambrosial hive,
What is she but the means of happiness?
That unobtained, than folly mar a fool—
A melancholy fool without her bells.

—YOUNG.

If the truth be so sad, it is merciful to turn back without saying anything to our fellowmen who are following in the same path.

Dr. Mossa tells us that not only Schopenhauer's pessimism is in vogue amongst the learned in Germany, but that a cheap edition of his works is being issued to let the vulgar read of their own miseries. The circulation of the works of Edward Hartmann, who is also a pessimist, though inferior in mental power to Schopenhauer, has been rapid and wide, showing that the public mind of Germany is prepared for the philosophy of despair. Next to Hartmann, Philip Mainländer was the best known of the exponents of pessimism. He came of a respectable and wealthy family named Batz, in Offenbach-on-the-Main, from which he took the *nom de plume* of "Mainländer." From childhood he displayed great gifts and it is said he received an excellent education. It was proposed that Philip should be a merchant, but his philosophical and literary taste soon led him to give up this calling. After going through the course of study in the gymnasium, he devoted himself to the study of the ancient and modern languages, literature, history, zoology and, above all, philosophy. Following the advice of Schopenhauer, who had a contempt for professors, Philip never attended any university. He traveled a great deal and went often to Italy, where he gave himself up to the enjoyment of the beautiful in art and nature. His sister Minna was the only woman who attracted him. She was his companion in his studies, his strivings and his enjoyments. He discussed with her all he thought and felt. The first work of the brother and sister was a drama, "The Hohenstaufen," which they published under the names Ph. and M. Mainländer, in the beginning of 1870 a work, we are told, full of youthful exaggeration, but remarkable through richness of ideas, and strength and beauty of language. But, whilst they agreed in the main tenets of their new philosophy, the brother and sister differed in their political leanings. Philip Batz had

democratic views, which were displeasing to the aristocratic feelings of his sister. To show his sympathy with the poorer classes, Philip entered the ranks as a cuirassier in Halberstadt and performed the lowest work in the stables, although his superiors did all in their power to put him past it. He thought it his duty to occupy himself in spreading socialism. He published three addresses to German workmen, in which he treated of the character of Ferdinand Lassalle, the social outcome of the present day and the divine and human laws.

Dr. Mossa tells us that what distinguishes Mainländer from the modern Socialists is his patriotism, his glowing love for the Fatherland. The State and the nation are to him forms through which may be followed the tendency to the universal, to the fulfillment of the fate of mankind. His socialistic views were the cause of frequent argument between the brother and sister. These discussions became more and more stormy as his work, "The Philosophy of the Redemption," neared its completion. Frä. Minna afterwards related that once she threw herself at her brother's feet and cried in despair: "The way to social democracy goes only over my body!" Philip was quiet for a moment and then said: "Good! Either you or I. But, then, you must bear the consequences."

In one of his writings he had already said that if the longing for death became a little greater, he would quietly cast off the burden of life. Distressed at the opposition of his beloved sister to his project of becoming a practical politician and wearied with doubts and disgusts, he turned to the abode of eternal rest. Philip Mainländer was now 35 years old. In March, 1876, he received the first printed copy of the "Philosophie der Erlösung" (Philosophy of Redemption) and on the last day of the same month he put an end to his own life. His sister afterwards explained that he had taken the first piece of linen which seemed strong enough and hanged himself, in order to convey the lesson that a man

too poor to buy a pistol could easily find another way to escape from life.

Minna Mainländer was thus left in the world without a protector. She had been tenderly reared in the bosom of an opulent family and was endowed with rare mental qualities and personal beauty. She had received a careful education, but, unfortunately, the ideal had been more attended to than the real side of human life. After being so closely associated for years with her brother in their home life, studies, literary activity and philosophical views, she was sure to be shaken to the innermost fibers of her being by his sudden death. Though Fräulein Minna was left in comfortable circumstances, her ignorance of practical life soon brought her into difficulties. She could not manage the Girls' Institute, left by her dead sister. The second volume of the "Philosophy of Redemption," which she got printed in a very unpractical manner, swallowed up large sums, and she understood nothing of house-keeping. She was compelled to leave the villa where she had lived so many years with her brother and pay up the overdue rent. An Austrian author, who was charmed with her, offered her his hand. At first she declined his offer, then she accepted him, but under the stipulation that she might follow all the teachings of her brother—in fact, should marry him in name only. Even this concession caused her much misgiving. The author did not persevere in his suit. She left Offenbach for Frankfurt, in order to give to the press the literary remains of her brother. A friend, Herr Höeth, to whom we are principally indebted for this narration, found a lodging for her, with which she was little satisfied. "Our father," she said, "brought us up like princes." She was too proud either to take care of her own money or to accept assistance from others. She refused a pension which was offered her by the Rothschild family. Some friends sent her money, which she seems to have put aside without touching. In the meantime she neither paid for board nor lodging. The people whom she lodged with repeatedly

gave her notice to quit, and as she gave no heed they let the room to another person. Then Fräulein Minna begged them to give her a room until she found a new dwelling. The family, though poor, good-naturedly gave up their bed-room to her. But still she made no preparations for departure, and their remonstrances were either entirely unheeded or answered with some biting remark. The people became weary of this and applied to the police. Fräulein Batz received a notice to quit at a certain hour: at the same time a creditor sent his people to arrest the furniture. She now saw that she must not only leave her lodging but part from the pieces of furniture which were associated with so many precious memories. Probably her most painful thought was the publicity of her position. Her clothing had become neglected and torn, and she had never learned to mend. She had long been without servants and did not allow anyone to clean her room, and she even neglected her person. At this last extremity she put on an old and torn dress, trimmed with fine lace, the holes in which she drew together with pins, seated herself upright in bed before a mirror and cut her throat with a razor. At this moment the men entered to remove her furniture: they heard her cry, "Now let me die!" ("So lass mich doch sterben!") She then gave a deep cut, fell swimming in blood, and all was over. This took place in May, 1890, fourteen years after Philip's death. Her only surviving brother came from Offenbach and took away her body. Her last wish was fulfilled: she rests by the side of her beloved brother.

Most people will think that the survivor came a few days too late. The lady should clearly have been put under medical care.

Besides Philip, an elder brother had already committed suicide. Lombroso* says that:

The grandfather of the Mainländers, after losing a son by death, became a religious mystic and then insane. He died of encephalitis

* "L'Uomo di Genio," Turin, 1888, page 63. Lombroso does not mention the suicide of Philip Mainlander. He quotes as his authority the *Revue Philosophique*

when only thirty-three years of age. Their father is said to have been an honest man of no great mental power, narrow-minded and commonplace. As he was rich their mother, though beautiful and accomplished, consented to marry him, in order to save her parents from financial ruin. The children of an unhappy marriage, their love of life from the beginning was cold: they lived in celibacy and out of harmony with the world. It would be thus unfair to attribute the suicide of the Mainländers entirely to the tenets of pessimism. It has been a frequent source of error and persecution for the opponents of a form of religion or system of philosophy, to trace out what they believe to be its logical consequences. Experience shows that they are not so often realized as one might think. There is what Renan calls the "*contresens*," the tendency in human nature to bend or wear creeds its own way till at last the practical outcome is something very different to the formula.

So strong is the love of life and so elastic is hope in the human breast, that even under the worst conditions, most men will continue to bear the burden of life to the end. Nevertheless one cannot deny that the melancholy philosophy of the Mainländers must have at least helped to drive them to an untimely end. To represent life as not worth living is surely the first step towards suicide.

One thing is clear to me, that in turning him back from political activity his sister did him a great disservice. Whether he would have done more harm than good had he entered into political life as a Socialist may admit of question, but the effort to influence men and things would have relieved the pressure of his brooding thoughts, and experience would have disenchanted him of some of his fancies. Thus, had Philip Mainländer thrown his energies into the socialistic movement, it seems probable that he would have found his days all too short for the work.

We are reminded of the verses of Sterling:

Still work, still act; be sure that life,
The source and strength of every good,
Wastes down in feeling's sickly strife,
And dies in dreaming's sickly mood.

To toll at tasks however mean,
For all we know of good and true,
In this alone our worth is seen,
'Tis this we are ordained to do.

Dr. Mossa tells us that Philip Mainländer pushed the consequences of pessimism further than either Schopenhauer or Hartmann. He styled them only half or three-quarter pessimists. According to Mainländer, God once was; from His existence His being has passed into not-being. The birth of the world was the death of God. In the world there is only the Divine Spirit which strives towards an end. This end, the final aim of all development of the world and of humanity, is not being; the way to it is suffering. The will to live is only a means towards a final aim, as it weakens the individual and so leads to the accomplishment of the end. Death is the redemption. Even during life men can free themselves and hasten on their development, some through activity in the service of humanity, others through renunciation and chastity. He who lives in virginity gains redemption, not only for himself, but for innumerable others whom he keeps back from life and its sorrows. But if death be the redemption of the living person, only should he be debarred from seeking this deliverance by his own hand.

The pessimistic philosopher observed that Christ had said nothing about suicide. In speaking of the evil things which come out of the heart of a man (Mark VII., v. 21-22), he makes no mention of self-murder, from which Mainländer concludes that Christ, like Buddha, did not condemn it. To those weary of suffering and without hope of relief, Mainländer gave the advice: "Go without fear, my brother, out of this life, if it be too hard for you: in the grave you will find neither a heaven nor a hell." While it appears that this philosopher followed his tenets to their logical conclusion, it is worthy of note that neither Schopenhauer nor Hartmann approve of suicide. According to Schopenhauer, the death of one does not bring the end of being. "The thing in itself" remains, as the rainbow continues although the drops which constitute it are dissipated. Only one appearance of life disappears through suicide. The only liberation of the

world from its wretchedness would be the death of all. This is perhaps not very clear to the reader, but it is quite in Schopenhauer's method. It is not uncommon with such sceptical philosophers, after having chased religion and morals out by the doors and windows, to surprise us by bringing them back down the chimney or through a trap-door in the floor. Hartmann is more to the point. He rejects all asceticism and suicide which would only leave places for people more foolish and brutish, who do not recognize the misery of this world and have no scruples in handing down the burden of life to other generations. Even if the whole race of men should agree to condemn themselves to extinction, the brutes would remain who have evils enough to bear and might, in the course of evolution, develop into a race of beings as luckless as mankind. Thus these two philosophers agree in condemning a man for seeking in death an escape from misery, because after his death other manifestations of life would still remain. All three, Schopenhauer, Hartmann and Mainländer, agree in regarding death as the end of the conscious existence of the person, though the living principle may exert its force in other forms.

This new materialistic Buddhism in the West is one of the strangest manifestations of modern thought. It does not seem likely that it will spread beyond some circles of literary speculators. One cannot conceive of a man bringing up his children in the belief that life is not worth living; but if he did, the result would often be as tragical as the fate of the brother and sister Philip and Minna Batz.

A Suggestion for the Statistical Classification of Insanity.

By C. G. CHADDOCK, M. D.,

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THE following *schema* is described, not because it is new in respect of details, but because it makes a new arrangement of the facts that have been brought out in the study of the insane as a class—facts that are now commonly recognized. Its merit lies in the arrangement by which the study of symptoms—mania, melancholia, dementia, paranoia, etc.—as diseases, is avoided. Cerebral disease is classified pathologically, while symptoms assume a place of secondary importance.

The separation of the cases into the curable and the incurable is a great *desideratum*. Were cases classified after this manner, we should soon be furnished with a body of statistics of the insane that would be of the greatest value; and there would accrue to medicine honor for its understanding of "insanity," instead of contempt for its powerlessness to cure incurable disease.

There can be but three forms of cerebral disease—functional, organic, and degenerate—and it is upon these three divisions that we would base our classification of cerebral disease manifesting perversion of mind.

Under functional cerebral disease would fall all cases in which there could be found no signs of organic change in the nervous system and no evidence of anthropological degeneracy (anatomical or functional) in the physical and nervous constitution of the individuals. Functional cerebral disease leads to organic disease, but cases of this class are primarily presumably curable.

In the organic class should be placed all cases in

which permanent or progressive structural alterations of cerebral tissue are present.

To the degenerate class should be allotted all cases of anthropological degeneracy. Cases belonging to this class might also be affected with structural cerebral disease, when it would be necessary to classify them by combining the terms degenerate and organic. The combination of degeneracy and functional disease, while it is frequent, when the mere manifestation of functional disturbance is considered, should be classified generically with respect of the degeneracy of nervous constitution and not in accordance with its accidental manifestations. These cases are, from their nature, incurable, but the cerebral condition may often be ameliorated and active mental symptoms removed.

On this basis, the accompanying examples of classification are made, with etiology and mental symptomatology added. They are set down as they would appear on a "Patients' General Register," save for the orderly succession of the three divisions.

Regarding the etiological factors set down with functional disease, no discussion is necessary, save in case 5. This case illustrates functional disease that has passed to an organic stage. The organic cases with their etiology speak for themselves until case 12 is reached, which is intended to illustrate a degenerate case complicated by accidental structural disease. In placing pubescence under etiology a certain inconsistency is at once manifest, for puberty is not the cause of the degeneracy, but it is a physiological event that often suffices to bring cerebral degeneracy into prominence, and in this sense, for practical reasons, may be looked upon as an etiological factor. The same reason holds for the etiology of the following cases. In those degenerate cases where no etiology is given, it is intended to indicate absence of knowledge of any marked etiological factor in inducing the active mental symptoms.

Degeneracy of brain is coming more and more into

CASE.	SEX.	NATURE OF CEREBRAL DISEASE.	ETIOLOGY.	MENTAL SYMPTOMATOLOGY.
1	F.	Functional.	Rheumatism.	Melancholia.
2	M.	Functional.	Alcoholism, acute.	Mania, Melancholia.
3	F.	Functional.	Puerperium.	Mania, Confusion.
4	F.	Functional.	Climacterium.	Melancholia.
5	M.	Functional-Organic.	Alcoholism, acute.	Mel., Del. Persecutore.
6	M.	Organic.	Syphilis.	Melancholia, Dementia.
7	F.	Organic.	Apoplexia.	Dementia, Mania.
8	M.	Organic.	Alcoholism, chronic.	Dem., Del. Persecutore.
9	F.	Organic.	Senium.	Dementia Querulosa.
10	M.	Functional-Organic.	Typhoid Fever.	Mania, Delirium grave.
11	M.	Organic.	(?)	Dementia Paretica.
12	M.	Degenerate-Organic.	Pubescence, apoplexia	Paranoia, Dementia.
13	M.	Degenerate.	Pubescence.	Dem. Epileptica, Mania.
14	M.	Degenerate.	(?)	Paranoia.
15	F.	Degenerate.	Pubescence.	Paranoia Hysterica.
16	F.	Degenerate.	Climacterium.	Paranoia Erotica.
17	M.	Degenerate.	Pubescence.	Paranoia Religiosa.
18	M.	Degenerate.	Alcoholism, chronic.	Paranoia Persecutoria.
19	F.	Degenerate.	(?)	Mania Periodica.
20	M.	Degenerate.	(?)	Paran. Hypochondriaca.
21	M.	Degenerate.	(?)	Moral Defect.
22	M.	Degenerate.	(?)	Imbecility, Mania.
23	F.	Degenerate.	(?)	Idiocy.

prominence as a factor in criminology and insanity. As the writer understands it, cerebral degeneracy is a structural disease. It is not classed as organic because the nature of the structural abnormality is entirely different from the accidental structural alterations of cerebral tissue that are comprehended in the term organic. The pathological anatomy of degeneracy of brain is not thoroughly understood, but, in the nature of the case, it is not logical to say that the abnormal mental mani-

stations of brain degeneracy depend on functional changes. By those alienists that describe the degenerate psychoses as functional, it is asserted that the disease is congenital even in the cases in which pronounced symptoms do not occur until the fourth or fifth decennium of life and that milder symptoms were manifested all through the individual's life is always shown when a complete biography is obtained. To call a disease functional that manifests its most active symptoms long after birth of organs that were in an undeveloped state at birth, and at the same time to recognize it as congenital, with its etiology in ancestry, is to call a fact by a wrong name. The congenital disease consists of conditions inherent in nervous tissue and is therefore structural and requires strict differentiation from the acquired functional cerebral diseases and the organic destructions of cerebral tissue.

It should be noted that from this *schema* the cases may be collected into a statistical table that will show the important facts briefly and at the same time convey correct ideas of their nature.

Intermittent Hysterical (?) Paralysis

By L. BREMER, M. D., St. Louis, Mo.

CASE.—*Anamnesis.*—B. G—, 16 years old, was up to the time of the first attack of the disease about to be described, a healthy boy who never manifested any symptoms of a nervous disorder. With the exception of an outspoken history of tuberculosis in his father's family, there is nothing of interest, from a neuropathological point of view, in his ascendancy, so far as could be ascertained.

When about five years old he fell from a height of about twelve feet, striking the right side of the head on the frozen ground. He was stunned for a short time, but aside from a scalp wound no serious injury to the head could be made out. Excepting a slight fever which lasted only a few days, and was ascribed to a co-existing contusion, there were no untoward symptoms connected with the accident. From childhood up to the present ailment he was always well, but for a mild type of bronchial catarrh to which he has been subject for a number of years.

While enjoying his usual good health he suddenly, on July 27th, 1891, felt a weakness in his left leg, which disabled him from bearing his weight on it. When he awoke the next morning he noticed that it had become entirely powerless and that all sensation had left it—otherwise he felt well. This condition lasted until three o'clock in the afternoon, when sensation and motion returned to such an extent that he was able to walk about with the aid of a cane. Several days later every vestige of the former trouble had entirely disappeared.

On the advice of his physician, Dr. E. T. Robberson of Springfield, Mo., he was now sent to a distant relative to live an out-door life, hunt and fish. One day, while

this visit, going home from church, the same (left) leg was paralyzed again. This happened just a month later, on August 28th, and lasted only ten minutes. A few hours later the leg was as strong as ever.

About four days later, Sept. 1, while standing in the yard, he suddenly dropped with the same leg. He was taken to the house and went to sleep, and during the sleep had a number of spasms the nature of which, according to the testimony of Dr. Rodes, of Mexico, Mo., were hysterico-epileptic. Though seeming conscious at times he had no recollection of these attacks when he was entirely at himself. This loss of consciousness, accompanied with a series of spastic seizures which were very frequent, but not counted, lasted six hours, from 3 P. M. to 9 P. M. He slept all night and on awaking found himself entirely well once more and had the full use of his leg. But at 9 A. M. he was again paralyzed in his left leg and had spasmodic attacks of the right side, which lasted all day. Most of this time he was unconscious. On the next day he found himself paralyzed and devoid of sensation all over the body, with the exception of the right eye, with which he could see plainly and which could be opened and shut at will. His left eye was closed. He was deaf in both ears, could not move a limb, not even a muscle of his face except the right eyelid. Unable to move, to hear or speak, he was nevertheless conscious and saw and observed with the one eye (the only organ left to his command) everything that was going on around him.

According to Dr. Rodes this general paralysis started (as the previous attacks did) in the left leg, spread thence to the left arm, then to left side of face, right leg, right arm, right face. It stopped at the right eye. After a few hours it disappeared in inverse order. The left leg, however, remained paralyzed, and although the right was movable shortly after the attack, it too, became again devoid of motion and sensation.

The spreading of the paralysis to the different parts of the body was preceded and accompanied by convulsive

movements of the arms and of right-sided choreiform movements. There was also opisthotonus.

When the patient presented himself to me, Oct. 4th, 1891, there had been no essential change in his condition, ever since September 4th, 1891, on which day the general paralysis receded, leaving him paraplegic.

The history of this second series of attacks is based on an account kindly furnished me by Dr. Rodes of Mexico, Mo.

Status praesens. October 4th, 1891.

The patient is carried into my office and placed in a chair. The legs dangle from his body in a lifeless manner. He looks somewhat pale, but appears well nourished and is well developed for his age.

There is complete motor and sensory paralysis of both legs. If one of his legs is raised and let go, it falls like a dead weight to the floor; this is the case whether the patient is watching the handling of his leg or not. There is not a trace of muscle sense: he has no idea of the position of his legs with eyes closed. He neither feels a pin thrust into the skin or muscle, nor the faradic brush. The knee-jerk is normal, the superficial cremasteric reflexes are present, the deep less marked on the left than on the right side. Abdominal reflexes absent.

Very peculiar is the delimitation of the anæsthetic area. It terminates very sharply at a line drawn along the inguinal fold and along the crest of the ilium, back to a point about an inch above the coccyx. A puncture with a pin on either side of this line, above or below, is either felt distinctly or not at all. There is no area of dulled sensation, nor hyperæsthetic zone. Penis and testicles have their normal sensibility. This becomes strikingly apparent when inadvertently the faradic brush (which does not make the slightest impression on the patient through the anæsthetic thigh) comes in contact with those organs.

Muscular and neuro-muscular reaction is normal both to the faradic and galvanic current.

The pupils are in a medium state of dilatation and vary

considerably in size. At times there is an instability approaching hippus. He claims to be near-sighted since the last attack of paralysis and his visual field is very considerably contracted. Colors are correctly recognized. On accommodating his eyes on near objects—a finger for instance, which approaches the ridge of his nose, there is considerable pain in his eyes, and after a short period of unrest in the iris muscles, the pupils appear much larger, and after prolonged and persistent effort at accommodation are almost *ad maximum* dilated.

No exact measurements as to distance-reading, or with the perimeter, were made. He claimed to be near-sighted.

There never was any involvement of bladder or rectum no double vision, vertigo, vomiting or headache.

There are two almost symmetrical scars on either side of the forehead, at a point about three inches above the meatus externus auditorius and one inch in front of the binauricular line. The scar on the right side is said to have been produced by the fall on the head in early life. Of the origin of the scar on the left side nothing is known.

Aside from the narrowing of the visual field and the abrupt terminal lines of the anæsthesia, there are no hysterical stigmata, if not an account on his part of a fractured skull at the accident referred to above, which, as was ascertained, was not in accord with the facts, and a peculiar quivering of the eyelids, whenever he closed the eyes, are regarded as pointing to hysteria. Search for hysterogenetic points and "ovarian" tenderness was made with negative results.

Basing, however, my conclusions on the history of the case and on the absence of all symptoms pointing to coarse lesion either of the spinal cord or the brain, an antihysterical plan of treatment was adopted. The patient was placed in a hospital; his relatives were not admitted; cold water douches to the thighs and abdomen applied, besides the strongest faradic current obtainable by a McIntosh battery was liberally applied.

Not the slightest impression was made on existing conditions and after a week's futile attempts I resolved to try hypnotism as a last resort.

October 11th was set for the experiment, and the patient was duly informed that he would be put to sleep by mysterious means and a cure would most probably be effected.

Drs. Fry, Hermann and Krieger, of this city, were summoned to assist at the experiment; but when we entered the room of the patient he informed us that motion and sensation had returned to the paralyzed legs. This was indeed the case; but, although sensation seemed perfect in every way, there was a considerable motor weakness left, which did not admit of walking. He moved the legs freely while in bed or sitting in a chair, but could not stand on them.

So marked was the improvement, however, that we all felt that a grand opportunity for the marvelous powers of hypnotism had been missed. Hopes were entertained that improvement would continue. This was not the case. Under electrical treatment connected with simple suggestion, not the slightest progress was made; on the contrary I discovered to my dismay that the knee reflexes became gradually abolished and that the neuro-muscular faradic reaction became diminished in both legs and finally disappeared completely by October 17th, in the left, the motor points for the extensors as well as flexors of the leg giving no response whatsoever even to a strong faradic current. The galvanic reaction could not be tested owing to the absence of a suitable apparatus at the hospital.

Unexpectedly, on October 18th, a period of spastic seizures set in similar to those of about six weeks previously.

The attacks generally began with drowsiness, which gradually deepened into stupor and profound sleep, from which nothing could arouse him.

There were minor and major attacks. The former were, in addition to the varying changes in consciousness,

characterized by quivering of the lids, irregular contractions of the facial muscles, fingers, hands and arms twitching rhythmically, the flexors being chiefly or perhaps exclusively implicated, eyeballs rolling or turned upwards.

The major attacks would be accompanied by opisthotonus or emprosthotonus, twitching of the shoulders and hips. Only once the right leg was implicated in the convulsions, the left never moved. After the first few attacks all motion and sensibility of the lower extremities had again completely disappeared as mysteriously and unexpectedly as it had returned a week before, it now vanished. Once, however, after one of the severe attacks, it returned to the same imperfect degree as before, only to again depart completely. The attacks changed constantly in intensity and duration. At one time he had four in ten minutes. In his waking moments he complained of pain in the occiput, but claimed that he felt perfectly well otherwise. On the second day there was suppression of urine for twenty-four hours. The bladder seemed absolutely empty.

At times he talked in his sleep. After the major attacks he would tear the bed clothes and everything he could get a hold of: of this phase and the rest of the attacks he remembered nothing when awake.

The most alarming feature of this condition was the state of his respiration and pulse. When the twitching in the arms was first noticed, the former was four, the latter forty-two. At one time, when there seemed to exist profound coma, his pulse was twenty, respiration one. Once, seventy-five seconds passed between two respirations. At times the pulse would run up as high as 108, to come down almost as quickly to thirty or twenty. Temperature varied between 100 and 104½.

His eyes were often wide open while he was unconscious. He had requested the removal of all pillows from under his head, because of the danger of suffocation whenever his head was in a raised position. In his former attack he came very near suffocating because his

friends insisted on propping him up in bed, which he had to suffer because he was unable to move or make them understand that by giving him such a position they were smothering him.

In about four days the spasms gradually ceased, the intervals of consciousness became longer, pulse, respiration and temperature became normal, he sat up again and aside from the complete flaccid paralysis and anæsthesia of the legs, he felt well.

I now learnt that a high temperature had been observed during his former attacks, but apparently nothing abnormal had been observed as to pulse and respiration.

One complication, however, seems worthy of notice, although I do not know whether there was any causal connection between it and certain symptoms of the attack.

A tonsillitis had made its appearance on the first or second day of the relapse and what appeared like pseudomembranes were visible on the left tonsil. Without any special medication the tonsillitis disappeared together with the symptoms on the part of the nervous system.

During the attacks of severe spastic seizures coupled with the alarming dyspnœic symptoms I had become shaky in regard to the hysterical nature of the affection and suspicion of organic brain-lesion, began to assume a more concrete shape.

The persistence of the paraplegia, the lowering and complete extinction respectively, of the faradic neuromuscular excitability and the absence of the knee-reflexes were also calculated to lend color to such suspicion.

Though rather vague and indefinite, the thought of some voluminous substance in the longitudinal fissure pressing on the leg-centers, motor and (possibly) sensory, and the occasional increase of this mass by blood or lymph and thus impinging by pressure on and through the corpus callosum on the subjacent cavities (third and fourth ventricle), thus giving rise to the disturbances of the centers in the medulla oblongata, began to assume a tangible shape in my mind.

But all such surmises as to the pathology and nature of the affection vanished before the light which subsequent events shed over the case.

The patient left the hospital, went home and passed under the treatment of Dr. T. E. Robberson, of Springfield, Mo., in whose care he had been at the beginning of the ailment.

About one month after he left the hospital, during which time his condition had been essentially unchanged, he suddenly recovered the use of his limbs.

The doctor wrote on November 20th :

The patient said that he felt like he did before he had convulsions in St. Louis. There were slight convulsive movements of the upper extremities, but last night, after sleeping several hours, he awoke and found that there was a return of sensibility and motion in his limbs, and when I visited him in the afternoon to-day, he met me in the hall and walked as if he had never had a symptom of paralysis.

It is, perhaps, of interest to state that before as well as after the time that the patient had been under my care, iodide of sodium in increasing doses and bichloride of mercury had been administered.

From the middle of November up to the present time (March 22d) there has been no return of the trouble.

About a month ago, while on a visit to the place of residence of the patient, I had an opportunity of verifying the favorable report of the doctor. I found the boy completely restored, but the knee-reflexes were still absent. Unfortunately, I did not have an opportunity of testing the electrical reactions.

REMARKS.

After having given the history of the case, with all the details which I deem essential, the question of classification arises, and I have tried to look up the literature with a view of properly locating the trouble nosographically.

From a want of more exact knowledge of the true

nature of this and similar cases, one is apt to fall back on the rather vague name of hysterical paralysis. This diagnosis is suggested principally on the fact that the anæsthesia does not correspond to the course of the sensory nerves and on the peculiar spastic attacks which are best brought under the head of hystero-epilepsy. With the exception of the narrowing of the visual field, the other hysterical stigmata were absent. Above all, there was no trace of an hysterical temperament or psychical anomalies, nor any hystero-genetic points. Throughout his sickness the boy bore himself like a philosopher. The other facts speaking rather against the hysterical nature of the affection were: the diminution and ultimate abolition of electrical reaction; the disappearance of the patellar tendon-reflexes; the alarming anomalies of pulse and respiration, and the rise of temperature.

Very properly the great influence of the psychical element as being a factor is emphasized by the writers on hysterical paralysis.

This is done, *e. g.*, by P. Marie and Souza-Leite,* who have collected and described seven cases of flaccid hysterical paralysis, partly of the paraplegic, partly hemiplegic variety, in which this etiological element was quite conspicuous. In our case not a trace of the "ideal" or imaginative as being possibly contributory to the production of the paralytic or spastic attacks could be ascertained.

As regards abnormal electrical reaction the only case analogous to the one described by me, that I could find in literature is one briefly mentioned in a report of the Society of the Physicians in Buda Pesth, June 9th, 1889.† "C. Laufenauer demonstrates a boy of ten years who has been nervous for three years, has had several hystero-epileptic attacks and is suffering now from a monoplegia of the left lower extremity with diminished galvanic and faradic excitability."

* Contribution à l'étude de la paralysie hystérique sans contracture. *Revue de Med.*, 1885 Mai.

† *Neurolog. Centralbl.*, 1889, page 536.

The value of the presence or absence and the quality of the knee-jerk as a means of differential diagnosis in the various kinds of paralyses, is specially appreciated by the neuropathologist in cases where there is a suspicion of hysteria as a factor. As a rule a sense of assurance settles in the mind of the examiner, if the reflexes are found to be normal. Weakening or exaggeration have been observed,* but abolition of the knee-jerk is said by some† to never occur in hysterical paralysis. Whether the non-abolition is as absolutely diagnostic in hysterical paralysis as its absence is of tabes, it is for future observations to settle.

For the present it seems to me that the extinction of this reflex, although it impresses me as a grave sign and of evil foreboding as to the future, is not in itself strong enough to militate against the assumption of hysteria, and it is possible that abolition of tendon-reflexes and neuro-muscular excitability will be met with in future cases similar to the one described by me.

A slowing of the pulse analogous to our case I have seen only once recorded. This is the case of James Oliver,‡ with typical hystero-epileptic attacks; a slowing of the pulse from 78 to 48 was observed.

I know of several instances, however, in which, after ovarian operations, this symptom, together with an alarmingly slow respiration, set in as the only manifestation of *traumatic* hysteria, and which, though causing for the time being the gravest anxiety to the surgeon, disappeared as unaccountably as it had set in.

The rise of temperature observed during the spastic attacks seemed to be caused by the attacks themselves. Charcot, however, asserts that febrile elevation of temperature is not caused by hystero-epilepsy, that hysterical fever occurs independently of it, and that a spastic attack producing hyperthermia must be set down as epileptic.

* P. Marie and Souza Leite, l. c.

† Buzzard, in a discussion on the significance of the tendon-reflexes, at a meeting of the Medical Society of London, Nov. 2, 1885. *British Med. Jour.*, 1885, Nov. 7th.

‡ A case of hystero-epilepsy in the male. *Brain*, 1887, Oct., page 397 ff.

In our case the fever was noted only during the seizures, so that after all there seems to be a causal relation between the two, although it must be admitted that in his third attack (the one witnessed by me) the complicating tonsillitis may possibly be held answerable for the rise of temperature.

This leads to the consideration of another question which forced itself upon me at the time the attacks were most severe. It will be remembered that there was complete suppression of urine during one day. Anuria is not uncommon in the hysterical, but the inference of the existence (at the time) of a uræmic intoxication is not inadmissible, and the clinical picture of the series of attacks recalled indeed somewhat certain forms of uræmic convulsions that I have witnessed in other cases. Possibly, in the absence of all psychical factors which were certainly wanting in our case, we must turn for an explanation to the supposition of an auto-intoxication. This most modern in literature of all the disease-producing agencies has been called into requisition for an understanding of a kind of intermittent, or as it is called by one observer,* "periodical" paralysis, with some degree of probability.

The characteristic features of this new nosographical entity is, besides the periodicity of the paralysis, the striking diminution, down to a complete abolition of faradic neuro-muscular excitability, without any impairment, however, of sensation. The urine of such patients, possesses at the time the paralysis sets in, intensely toxic properties. Besides Goldflam, Westphal, Cousot and Schachnowitz have described cases of this kind. Although on account of the inexplicable disappearance of neuro-muscular irritability our case partakes of the most important and remarkable characteristic of this class of cases, it can, in my opinion, for other reasons, be brought only under the head of hysterical paralysis.

* Ueber eine eigenthümliche Form von periodischer, familiärer wahrscheinlich auto-intoxicatorischer Paralyse. Vortrag gehalten am 6ten. Aug. 1890 in der inneren Section von Dr. S. Goldflam, Warschau.

The post-spastic destructive movements of the patient which find their analogon in post-epileptic mania are, I believe, not so very rare. I have seen them in unequivocal cases of hystero-epilepsy in women, and notably in one case which was committed to the St. Vincent's Institution of this city, under the supposition that it was a case of mania.

With the hystero-epileptic attacks the maniacal out-breaks which always followed them, ceased simultaneously.

It is not always that hysterical paralysis ends in sudden recovery; some cases improve gradually, although the sudden cessation of paralytic symptoms is justly regarded as a pretty sure sign of the hysterical nature of the affection. Among those that recover slowly, many, especially in former times, have been set down as due to coarse spinal disease (poliomyelitis or diffuse myelitis) and figure in literature as "cured" by galvanization or other procedures of doubtful therapeutic value.

Paraplegia with ultimate complete recovery has also been observed in pregnant women or after delivery. The favorite explanation has generally been on the now rather notorious reflex theory. Jolly* reported two such cases at the meeting of the Southwest German Neurologists and Aliënists, at Baden-Baden, June 13th and 14th, 1885. He adduces sufficient reasons to pronounce them hysterical. One of them recovered very promptly when preparations were made to apply actual cautery to her spine.

A less severe but probably equally well pronounced case of hysterical paraplegia has been recorded by A. G. Barrs.†

In this case, a boy of 12, paraplegia with absolute anæsthesia and analgesia from the patella downwards to the insertion of the toes existed. There was a sharply defined upper and lower line of demarcation. The attack

* *Neurol. Centralbl.*, 1885, page 305.

† *The British Med. Jour.*, 1882, Febr. 25.

followed on the cessation of nocturnal enuresis, for which the boy had been treated. The patient recovered.

It will be remembered that an antispasmodic treatment had been instituted and followed up by Dr. Robberson.

I do not propose to recommend or defend the treatment of this case by iodide and mercury, but it is perhaps more than a coincidence that in the practice of Dr. Parker,* a girl (in whom syphilis could be safely excluded) suffering from hystero-epileptic attacks, recovered under the use of these drugs.

In conclusion, I would call attention to the tuberculous diathesis in the patient's family, which is well pronounced, and to the connection which, according to Blocq, obtains between this diathesis and hysteria.

* A case of hystero-epileptoid attacks with convulsions produced by local irritation of the skin, by Parker. *Brain*, 1887, January.

Report of a Case of Transitory Frenzy.

By THEODORE DILLER, M. D.

TRANSITORY frenzy is a psychosis of such great rarity and short duration that many alienists of large experience have never seen a single case. Some writers have even maintained that the disease is a myth, existing only as the result of the ingenuity of certain biased observers. But enough cases have now been reported by different observers to certainly establish the fact of the existence of the disease. Doubtless some authorities have been loth to admit the reality of the disease because of the possibility of establishing another loophole by which criminals may escape justice. But science must always record the truth—the exact truth, let the consequences be what they may.

Transitory frenzy occurs usually but once in the lifetime of an individual. The attack may last only an hour or two: it seldom lasts longer than twenty-four hours. It is characterized by violent frenzy, numerous delusions and hallucinations and complete amnesia for the excited period. The disease usually comes as a thunder-storm out of a clear sky, there being no premonitory symptoms or sequelæ. Doubtless heredity and the ordinary forms of stress; *e. g.*, exhaustion from physical disease, auto-intoxication, syphilis, neurasthenia, etc., act as predisposing causes.

I am permitted to report the following case by the courtesy of my friends, Drs. M. R. Ward and C. O. Goulding, of Pittsburgh, who attended the patient during his attack.*

The case is a quite typical one and is, in the main,

* The case was referred to by Dr. Goulding at a meeting of the Pittsburgh Academy of Medicine.

quite similar to those reported by Kiernan, Marc, Griensinger, Ray, Bryce, Krafft-Ebing and others.:

A. B., German; age 28; single; a stationary engineer; weight, 185; height, five feet eleven inches; fine physique; good family history.

Patient was and is an industrious, thrifty man of correct personal habits; never contracted syphilis; uses alcohol sparingly. He lived with his widowed mother, whom he cheerfully supported and held in proper affectionate regard.

About the middle of March, 1891, he suffered from an attack of influenza of a catarrhal type, which lasted about a week or ten days, for which he was treated by a homeopathic physician. He was making a good recovery without sequelæ, so that it was thought that further medical attendance was unnecessary. Shortly after this he walked down to Dr. Ward's office, a distance of about a mile, on a very warm day. He took a drink of whisky on his way down, complaining of feeling very tired. As he seemed very much run down in general health Dr. Ward prescribed a tonic for him and advised him to rest at home for a time before going back to work. It took him two hours to get back home after this visit, as he was compelled to rest on the way several times. Upon his return home his mother noticed that he was very debilitated and offered him a glass of beer. Aside from being somewhat taciturn there was nothing specially noteworthy about his mental condition upon his return home.

A half-hour later he sprang violently upon his mother, who was alone with him, shouting loudly all the while. The turmoil soon drew a number of the neighbors to the scene. He accused his mother and the neighbors of trying to murder him and was utterly unable to appreciate in the least his surroundings. Only with the greatest difficulty was he secured and put under restraint. When Drs. Ward and Goulding arrived a short time afterwards, the man was in the height of maniacal frenzy and incoherent delirium. It required the united energy of six men to hold him sufficiently quiet so that a hypodermic of a half-grain of morphia could be administered to him. When he felt the needle in his arm he declared that "all was up" and that he would die; that he was poisoned; that he had been cut with a knife. He was closely restrained until the morphia had taken full effect, some

three-quarters of an hour later. Drs. Ward and Goulding called later in the day and found him perfectly rational, but presenting a flushed face and wild appearance. Bromide and chloral were administered in the evening.

The next day, when questioned, he said that he had not the slightest recollection of the attack he had made upon his mother. It was touching to observe how pained he was to learn of the injuries he had inflicted upon her. A week afterwards he resumed his occupation and has worked regularly ever since.

His mother died two days after the assault, from the injuries she sustained.

Remarks.—Besides the great interest which attaches to transitory frenzy from a medical stand-point, cases of this disease are well worthy of being recorded because of vexed medico-legal questions which may arise in consequence of them.

In this case fortunately no suit was entered against the young man on account of the sad homicide. No one doubted his genuine affection for his mother; he was known to be free from passionate outbursts of anger. Hence no one entertained a suspicion that his violent assault upon his mother occurred during a psychical state in which he was wholly irresponsible. No one doubted but that the regrets he expressed for the tragedy which he enacted were genuine.

Now suppose the frenzy had occurred while the young man was in the presence of a person between whom and himself had existed some enmity or even rivalry, and that he had killed such a person instead of his own mother, doubtless he would have been arrested and tried for murder. Who can say what would have been the outcome of the matter under such conditions? Someone in the future may be arraigned in court for murder who has committed a homicide in this manner. If so, I trust that the defense may come across this case among the few others recorded, to quote in extenuation of the crime.

When questioned subsequently, the patient said that he remembered absolutely nothing of the assault. He

remembers reaching his home after his visit to Dr. Ward and nothing more until late in the evening of the day of the tragedy.

The psychosis would appear to consist of a violent explosion of the motor and psychical centers in the brain while the very highest centers are so discordant in action that consciousness is entirely lost during the explosive attack. By Cook and others it has been likened unto epilepsy. As far as the seizures themselves are concerned the analogy is certainly striking, both presenting symptoms which are the results of sudden and violent explosions of nerve centers. But the analogy fails when we study the life history of the two diseases. In epilepsy the seizures recur more or less frequently; in transitory frenzy but one attack is noted in the lifetime of the patient. It differs from acute mania in being of very much shorter duration; in the greater violence of its symptoms; and in the fact that there is absolute amnesia for the attack.

In the present state of our knowledge it is, I think, best to adhere to the name transitory frenzy—thus giving the psychosis a separate place of its own. Yet I cannot help thinking that in the future it may be shown that the underlying pathological conditions in transitory frenzy are very similar to if not exactly identical with those of certain forms of epilepsy.

SELECTIONS.

NEUROTHERAPY.

TREATMENT OF NEURASTHENIA BY TRANSFUSION (HYPODERMIC INJECTION) OF NERVOUS SUBSTANCE.—The *Boston Medical and Surgical Journal*, of March 17th, contains an editorial on a subject on which we had prepared elaborate extracts, which we place before our readers in lieu of our translation, as the gist of the communication is therein presented. It is as follows:

"At a recent meeting of the Paris Academy of Medicine (Session, February 16th, 1892), Constantin Paul reminded the assembly of the first communication of Brown-Séquard to the Society of Biology on subcutaneous injections of testicular liquid. In a number of instances a profound stimulation, an uplift of all the forces, followed; this lasted a considerable time, and was not followed by a corresponding depression. Constantin Paul compares this effect to what often takes place after injections of nervous substance into the subcutaneous cellular tissue.

"The liquid which he used was a ten per cent. solution of the gray matter of a sheep's brain. This was first macerated for twenty-four hours in glycerine water, then filtered through Darsonval's carbonic acid filter, which sterilized it. The resulting liquid was absolutely transparent.

"M. Paul first injected one cubic centimeter of this liquid under the skin in the lumbar region, and subsequently increased the quantity to five cubic centimeters every third or fourth day, using all the antiseptic precautions necessary. The injection was perfectly tolerated, producing no local or general reaction. Out of more than two hundred injections practiced on eleven patients, he failed in any instance to witness any phlegmon or pustule following the injection.

"The patients on whom he performed these injections were classed as follows: Four were victims of tabes; one was a case of permanently slow pulse; three were suffering from ordinary neurasthenia; three were neurasthenic chlorotics. There was in all a general tonic effect,

characterized by increase of strength, appetite and weight, restoration of spirits and *bien-être*, disappearance of pain, sexual impotence and insomnia.

"M. Constantin Paul concludes 'that injections of the gray cerebral substance constitute a true tonic for the neuropathic.' 'The neurasthenic,' he adds, 'is a patient whose nervous system resembles an accumulator which it is impossible to charge. As long as the disease lasts, the neurasthenic eats to no good purpose, for he cannot transform his food into force. On taking the least exercise, the muscular, nervous and other forces are exhausted.

" 'The injection of nervous substance promotes the utilization of foods and their assimilation. The nervous system becomes a condenser which can be charged, and the patient acquires a quantum of forces which he can dispose of at his will. But the nervous force is the first to develop, and this leads to the development of the other forces, and the ability to do work of the muscles and brain.'

"Great expectations may certainly be entertained of this mode of treatment, if one is prepared to believe, as Dr. Paul affirms, that 'the injections ameliorate and cure the neurasthenic and enfeebled more rapidly than the ordinary agents of the *materia medica*, iron, arsenic, phosphates, opium und alcohol,' and if 'their action is more rapid and more certain than that of hygiene alone, of hypnotic suggestion, and of electricity.' "

THYROID GLAND JUICE may yet be included in the *materia medica*. Myxœdema (*Western Druggist*) has recently been shown to depend on suppressed functionation of the thyroid gland. It now appears that the secretion of the thyroid gland of sheep has been employed more or less successfully in the treatment of myxœdema by Dr. G. Murray, who gives full directions for its preparation.—*Medical Standard*.

DUJARDIN-BEAUMETZ' DIABETIC DIET.—Eggs, meats of all kinds, poultry, game, oysters, fish and cheese. Green vegetables, except beets, carrots and beans. Sardines in oil, herring, lard, goose grease, ham fat, caviar and cheese. Soups made of meats, with cabbage, poached eggs and onions. Only dietetic breads and saccharine in lieu of sugar. Claret wine with Vichy. Starch foods forbidden.—*Lyon Medecale*.

THERAPEUTIC USES OF URINE PTOMAINES.—Mairet and Bosc have (*Progrès Méd.*, October 24th) extracted from the urine of insane patients certain coloring matters. These dissolved in distilled waters have been hypodermically injected—melancholiac urine ptomaines into maniacs and *vice versa*; stuporous lunatics into hypomaniacs and reciprocally. The therapeutic effects observed have been diminution of the stupor, depression or excitement.

FRANKLINIZATION IN GASTRIC NEURASTHENIA.—Dr. Boisseau du Rocher (*Rev. Interit. d'Electrotherapie*, November, 1891) claims that what he calls internal franklinization restores the dilated stomach rapidly to its normal size (usually in five to six seances). From the first seance digestion improves. Constipation usually disappears with the third seance. The urine attains normal quantity. Urinary ptomaines diminish rapidly and almost totally disappear in the third seance.

CACTINA PILLETS.—Dr. J. Walton Browne, B. A., M. D., M. R. C. S., L. M., 10 College Sq., N., Belfast, Ireland. "I consider Sultan's Cactina Pillets a most valuable remedy in the irritable heart of smokers."

HYOSCYAMINE FOR OBSTINATE NEURALGIA.—M. Verneuil (*Le Prog. Méd.*, No. 49, 1882) reports a case cured by hyoscyamine after resection of all the ends of nerves and even exsection had failed to give relief.

CANNABIS INDICA AS AN ANODYNE OR HYPNOTIC.—Dr. J. B. Mattison, *Medical Director Brooklyn Home for Habitués*, in November number of *Brooklyn Medical Journal*, contributes a valuable paper upon cannabis indica as an anodyne or hypnotic. By the concurrence of such authorities as Stille, Wood, Bartholow, Potter and Hare, he dispels the belief which has so long obtained, that cannabis indica is a poison. He has been unable to find any well-authenticated case in which death has been produced by its use. In his own experience, extending over ten years in treatment of habitues of opium, chloral or cocaine, it has proved a most efficient substitute for the poppy as a soporific and anodyne. Stille says: "Its curative powers are unquestionable in spasmodic and painful affections." Ringer states that he has found no single drug so useful

in migraine, most valuable in preventing rather than arresting the attack. He deemed it especially effective when due to fatigue, anxiety or climacteric change. Dr. E. C. Seguin, in 1877, recommended it highly. Dr. Whar-ton Sinkler, in a paper on migraine, considers cannabis indica more valuable in this form of headache than any other remedy. Dr. Suckling, of Queen's College, Birmingham, England, says: "Cannabis indica is almost a specific in a form of insanity peculiar to women, caused by mental worry or moral shock, in which it clearly acts as a psychic anodyne—seems to remove the mental distress and unrest."

Anstie commends it in migraine and the pains of chronic chloral and alcohol taking. From one-fourth to one-half grain of extract cannabis indica, repeated in two hours, if sleep has not been produced, is an excellent remedy for migraine of the young. Bastian and Reynolds commend it in delirium of cerebral softening.

Potter says that its anodyne power is marked in chronic metritis and dysmenorrhea. Dr Mattison says: "I am convinced that the dose of the books is often too small for many. Small doses are stimulating and exciting, larger ones sedative and quieting."

[We have never abandoned the use of this valuable drug in the management of cases of mental unrest and psychical pain since we learned to employ it in asylum practice, twenty-five years ago, on the authority of English alienists; and we have employed it quite as long and satisfactorily in neuralgia and dyspepsia or aepsia-nervosa with gastralgia.]

BROWN-SÉQUARD'S "EXTRACT."—Dr. Postchinine (*Gazette Medicale de Botkine*) recently made a report to the Medical Society of St. Petersburg, the gist of which is as follows:

After the publication of Brown-Séquard's first communication on this subject the author was somewhat sceptical, but in his esteem for the celebrated physiologist, resolved to institute experiments at the first opportunity.

The subject of the first trial was an old dog that could scarcely walk. An extract was employed, prepared in accordance with all the rules of antisepsis, from the testicles of a rabbit. After the first injection the animal began to walk and after the fourth every trace of weakness disappeared.

With so surprising a result it was resolved to repeat the experiment on man. The patient, 68 years old, had suffered a short time before with a severe attack of pleuropneumonia, which left him so enfeebled that he was unable to resume his occupation. After five injections of testicular juice (first sterilized in the most careful manner possible), giving two injections weekly, the patient experienced a return of strength and energy; a sciatic pain, which had long tormented him, disappeared. After eight injections his reproductive powers returned.

The second case was that of a syphilitic, attacked by profound diabetic coma. The very first injection produced a notable amelioration; after the fourth the somnolence disappeared and curious to relate, with the improvement of the general condition, the sugar diminished in the urine. The author, himself a diabetic, obtained the same result in his own case.

Dr. Postchinine tested this treatment in ten other cases, one of which was an old man of 90, who, after treatment, walked without a cane, which had before been impossible. As a local reaction the puncture was accompanied by a lively pain, which at times persisted for forty-eight hours.

The author concludes that the injections of Brown-Séquard "produce in the animal organism indubitable tonic and stimulant effects, though through what physiological process remains unknown. It may, however, be affirmed that the injected substance stimulates the activities of the cerebral centers, also the heart function, elevating the blood-pressure and the general nutrition of the body."—*Chicago Med. Times*.

WATER AS A LOCAL ANÆSTHETIC—ITS DISCOVERY AMERICAN AND NOT GERMAN—Dr. R. H. M. Dawbarn, writing on this subject in the *N. Y. Medical Record* of November 14, 1891, makes the following conclusive proofs of American priority on this subject:

"A German surgeon, Dr. C. L. Schleich, has recently shown, by experiments upon himself and his assistants, that water is a local anæsthetic when injected hypodermatically. This first appeared in the *Deutsche Medizinische Zeitung*, No. 66, 1891.

"In 1885 I called on Dr. William S. Halstead, now Surgeon-in-Chief at the Johns Hopkins Hospital in Baltimore. I was at that time making some investigations in

regard to local anæsthetics, and Dr. Halstead was better informed than myself.

"In the course of our conversation Dr. Halstead remarked that he had recently been using water by the hypodermatic needle as an anæsthetic for small operations with success.

"In order to satisfy my curiosity as to just how the water obtunded sensation, made a few experiments on my own person.

"The æsthesiometer was used both just before and upon concluding this experiment; and, briefly, it was shown that while some numbness was produced, the sensation was not enough abolished to permit of a cutting operation without pain; and that water probably has an analgesic property of its own."

As an additional evidence that the idea of analgesia from subcutaneous use of water is nothing new, he quoted the following passage from Bartholow's "Materia Medica" 5th edition, 1885, page 690; subject, Aquapuncture:

"It is a remarkable circumstance that aquapuncture has the power to relieve pain in a superficial nerve. So decided is this effect that there are physicians who hold that the curative effect of the hypodermatic injection of morphine is due, not to the morphine, but to the water."

BROMIDE OF GOLD IN VARIOUS NERVOUS AFFECTIONS.
Dr. Goubert (*The New Remedies*) brought before the Paris Académie a paper on a new and effectual remedy for epilepsy. Ten years' experience had convinced him that a considerable number of severe epilepsies may be certainly cured by bromide of gold, in the dose of eight to ten milligrammes *per diem* for adults and three to six milligrammes (one-twelfth gr.) for children, in solution, the maximum daily dose being twelve milligrammes (one-sixth gr.). This dose almost always produced severe headache. By lessening the dose a point of complete tolerance may be reached, which includes all toxic effects. In typical migraine, bromide of gold was found ameliorative and curative, if administered in doses of three milligrammes in watery solution an hour before the two principal meals, continued six or eight weeks. The attack may also be aborted by the administration of a dose of three milligrammes in its inception, repeated in an hour. Several cases of chorea have also been satisfactorily treated by Goubert, beginning with daily doses of four

to six milligrammes, gradually increased every two days until the contortions were quieted. Children rarely have headache, but they become irritable.

In Basedow's disease the author obtained a rapid and satisfactory result, and he mentions the histories of three cases treated several weeks.

HOW TO ADMINISTER IRON.—It is generally conceded that the officinal tincture of chloride of iron is the most valuable of the iron preparations therapeutically. The practical difficulties attending its administration for a length of time have been its disagreeably astringent taste, its corrosive action on the teeth and its constipating action.

Dr. G. W. Weld, an experienced dentist, recognizing the virtues of the tincture of the chloride of iron as a stimulant resource for patients after the strain of dental work, made repeated experiments to obtain a formula free from these objectionable features, which resulted in the preparation of a palatable syrup with all the therapeutic efficacy preserved. This has been placed in the hands of Parke, Davis & Co., prepared exactly after Dr. Weld's formula and described as Weld's Syrup of Iron Chloride (P., D. & Co.'s). It is believed it will effect a revolution in iron administration.

Nux vomica, Fowler's solution, and a laxative like aloin, may be added to this.

THE ACTION OF STRYCHNINE UPON THE CEREBRUM.—It has heretofore almost been regarded as an accepted fact that strychnine has no influence upon the cerebrum, but only upon the gray substance of the spinal cord and medulla oblongata. According to late investigations by Biernacki, this is not correct. After the subcutaneous injection of small doses of nitrate of strychnine on rabbits, the electric excitability of the cerebrum was found to be distinctly lowered. The effect was the same when strychnine was brought directly into contact with the cerebrum. The results of these experiments seem to throw some light upon the curative action of strychnine in cortical epilepsy and other irritative conditions of the cortex cerebri; and they also serve to explain the beneficial effects of this remedy in sleeplessness as recommended by Lauder Brunton. The influence of strychnine upon the nervous system has also been investigated by Paulsen, who finds that

large doses cause a general paralysis of the central nervous system.—*Journal of Nervous and Mental Disease*.

EFFECTS OF THE ADMINISTRATION OF SULFONAL.—Dr. Sgobbo Francesco, of Naples, in making a series of observations, published in *Annali di Neurologia*, Fac. II., 1891, came to the following conclusions:

1. That sulfonal is a good hypnotic.
2. That given in doses of three grammes it exhibits an action over the heart and blood-vessels, reinforcing the systole and increasing the vascular tone of the arteries. This action upon the vessels is not continuous, for, after a certain time, there is dilatation and a progressive loss of elasticity, beginning first in the vessels of the brain, then extending to the periphery. The alterations in the vessels stand in relation to the amount of the drug taken.—*Buffalo Med. Journal*.

SULPHONAL.—Dr. J. Carlyle Johnstone (*Jour. of Ment. Science*, January, 1892) concludes that sulphonal in properly regulated doses is, compared with other hypnotics, fairly certain, constant. It produces natural, tranquil, dreamless sleep. It has no injurious effect on the circulation, respiration, appetite, digestion, temperature or general health. After a time it can be discontinued or diminished, the patient still sleeping well. The chief disadvantages are its slow prolonged action and the serious motor cerebral disorders following repeated doses. Clouston has found that, judiciously given, it produces a direct gain in weight of the patient.

THE OVARIAN JUICE IN THERAPEUTICS.—Professor Brown Séquard (*Archives de Physiologie*) continues his record of experiences with testicular juice and adds some novel reports upon the use of injections of watery extracts of the ovaries in women. An American lady prepared the ovaries of rabbits and used the extract in the same way as was done with testicular juice. A dozen female patients suffering from debility, insomnia and uterine troubles secured from this fluid return of strength, relief of insomnia, cessation of hysterical attacks, and one old lady, who had lost her singing voice, a complete return of vocal power!

TRIONAL AND TETRONAL.—Dr. Schultze (*Therap. Montshfte.*, October, 1891) finds that trional in 15 to

60-grain doses predispose to sleep rather than produce it. In paretic dementia, hallucinatory cases, nervous exhaustion, insomnia and agitated dementia, both act well, even better, than sulphonal. In maniacal and melancholiac excitement they do not act as well. Both are very insoluble in water (tetronal only in 450 parts and trional only in 360 parts). Both are better. The untoward effects are similar to those of sulphonal. There is no delayed action, however. Trional is the most efficient.

SOMNAL IN MENTAL AFFECTIONS.—Schuber (*Wiener klin. Wochenschrift*, 1891, No. 22) summarizes the result of his experience in Meynert's Clinic: Somnal in doses of two grammes (3ss) is an excellent hypnotic in insanity without excitement, and can be used daily for several weeks without unpleasant symptoms. It is valueless in conditions of excitement. When severe headache co-exists it is also of little value for the sleeplessness. It does not influence the circulation or respiratory function.

CLINICAL NEUROLOGY.

CENTRAL ORIGIN NERVE PAIN.—The *British Medical Journal* thus discusses Dr. Edinger's interesting article in *der Deutsche Zeitschrift, für Nervenheilkunde*, Bd. 1, on the subject of pains of cerebral origin or whether pain is ever due to central disease. Dr. Edinger cites the case of a woman, aged 48, who had a slight apopleptic attack three years after the occurrence of endocarditis. The initial symptoms of the stroke were disturbances of sensation in the right limbs and slight transient defect of consciousness. Paralysis of these limbs, with hyperæsthesia and intense pains in the whole of the right half of the body, next developed. Eight months later slight athetosis in the palsied limbs and partial contracture in the arm were superadded. Temporal hemianopsia of the right eye was noted later. The constancy and agonizing character of the pains led to suicide two years after the fit. A small focus of embolic softening was found in the dorsal portion of the external nucleus of the left optic thalamus, extending backward into the pulvinar and slightly involving the internal capsule at the posterior

region of Charcot's sensory crossway, the affected fibers apparently belonging to the temporal and occipital radiations. Secondary degeneration of fibers in the mesial portion of inner third of the corresponding crista was seen. From the level of the posterior corpora quadrigemina downwards the left superior fillet showed fewer fibers than the right. In the medulla, above the piniform decussation, this degeneration affected the whole transverse section of the fillet, being more pronounced in the ventral half. When tracing the relationship between the clinical symptoms and the existing pathological anatomy, Dr. Edinger points out that the absence of degeneration in the pyramidal tracts and of exaggerated knee-jerks in this patient would appear to indicate that the disease of the thalamus has some influence in producing late rigidity. Between athetosis and typical posthemiplegic hemichorea many transitional grades of motor impairment have been noted by various observers. He is disposed to accept Charcot's view that these conditions depend upon destruction of fibers in the hinder part of the thalamus. The rare condition of hemianopsia, from capsular disease, without hemianæsthesia, was probably due to the small extent of the primary lesion. The pains and hyperæsthesia were presumably the consequence of direct contact of sensory fibers with the diseased patch. Descending degeneration of the cortical fillet has several times been observed in connection with disease of the posterior segment of the internal capsule, with or without involvement of the thalamus; hemianæsthesia usually has been associated therewith; very rarely has pain or hyperæsthesia been noted.

CLINICAL NOTES ON COMA, presented in a paper read before the Department of Practice of Medicine of the Minnesota State Medical Society, June 17, 1891, by Dr. Haldor Sneve, of Minneapolis, Minn. These were observed at the National Military Home at Dayton, Ohio. The records show that most of the cases are uræmic.

Case 1.—One of the soldiers, æt. 43. German, on guard duty, keeled suddenly over while sitting in an office, without any premonitory symptom. When brought to the hospital, breathing stertorous, perfectly unconscious, no œdema, ammoniacal odor of breath, small quantity of urine in bladder, which almost coagulated in a test tube; also fatty, granular casts in abundance. Pilocarpine, hot baths,

etc., proved unavailing and the patient died the third day. *Post-mortem* showed large white kidney.

Case 2.—Adam Zoller, German, æt. 39, nurse, swallowed five and a-half grains of morphine in solution with suicidal intent. The patient when seen fifteen minutes afterwards was in a condition of stupor, from which he soon sank to coma. Emetics and titillation of the fauces failed to produce emesis and finally a hypodermic of apomorphine seemed to extinguish the last spark of life. Diagnosis was very easy, because the pin-point pupils gave us the clue, and the morphine bottle was found empty. 1-40 of atropine was given hypodermically, artificial respiration with chafing of the extremities and flagellation of the body was resorted to continuously for several hours, and enemata of strong black coffee with brandy were administered. Respirations declined to five per minute with pulse not perceptible, heart-beats 120 and temperature 100 degrees. Face cyanotic and blue spots over chest. Although patient did not vomit, recovery occurred. Next morning patient was conscious and temperature 101 degrees. Duration of coma, nine hours.

Case 3.—Old soldier, brought into hospital comatose, pupils widely dilated, with occasional convulsive movements. No hemiplegia. Eyes and mouth dry. Stertorous breathing. A bottle was found in his pocket containing a few drops of a clear solution. One of these placed in the eye of a cat caused almost immediate dilatation, confirming our tentative diagnosis of atropine poisoning. The patient recovered under use of pilocarpine and morphine hypodermically but was insane for some weeks afterwards.

Quantity of atropine taken unknown. Guards reported that the man was delirious and running about wildly before he was taken to the hospital.

CEREBRAL ACETONÆMIA.—Talamon, in an interesting paper, states that a group of nervous symptoms comparable to those of uræmia has been described under the name of acetonæmia, a condition characterized by a reddish color imparted to the urine on the addition of perchloride of iron and by the peculiar acidity of the breath, which exhales an odor that has been compared to that of chloroform and which in reality is the odor of acetone or of ethyldiacetic acid. Various observers have concluded that the nervous symptoms were due to acetone acting upon the organism in the same manner as

chloroform. The precise pathogeny of this toxæmia, however, has not been chemically elucidated any more than has that of uræmia or cholæmia. The substance which with the perchloride of iron causes the red reaction in the urine may be ethyldiacetic acid (Gerhardt) or diacetic acid (Jaksch). The symptoms of poisoning may result, not from the isolated action of one of these substances, but from a series of chemical decompositions, of which the acetone and diacetic acid are but ultimate products of little importance. Acetonæmia has especially been observed in diabetes and in diabetic coma. Peters and Kaulich have, however, noticed that the odor of the breath and the reaction of the urine are observed not only in diabetics, but also at times in the course of the eruptive fevers in children with measles and scarlet fever.

MERIATCHENJE.—This is the name applied by Tokarski to a condition observed in Siberia, in which individuals without other abnormality involuntarily perform senseless, sometimes criminal acts, spontaneously or in obedience to commands from others, or repeat words or actions that they hear or see. In one case the condition had existed for thirty years in a woman seventy years old, following a fall from a horse, with loss of consciousness. In a second case, in a woman thirty years old, the condition had existed for two years, since the death of her husband. In four other cases there was an irresistible tendency to imitation, induced by anger or fright. The disease affects principally the natives of eastern Siberia, but Russian immigrants do not escape. It has occasionally been observed to be epidemic. The maladies which have been described by voyagers to Java, Singapore and North America as *lata*, *sapitlakar* and the jumping disease, appear to be identical with meriatchenje, the identity of which with *tic convulsif*, however, is disputed.—*Revue de l'Hypnotism (La Méd. Mod.*, No. 35, '91). [This is the same disease as described by Beard and Hammond. We hope to see Hammond's description, which has been omitted from the last edition of his "Nervous Diseases," replaced in the next.—ED.]

ACUTE ANGIO-NEUROTIC OR CIRCUMSCRIBED CUTANEOUS EDEMA.—Bauke (*Berliner klin. Wochenschr.*, 1892, No. 6, page 114) reports two cases of angio-neurotic edema, one in a female, the other in a male. From these and

from a summary of the literature, he finds many reasons for a belief in the purely nervous nature of the affection. In most of the cases the patients have been neurotic, some presenting hereditary tendencies. In many the condition was associated with other neuroses, such as urticaria, neuralgia, abnormal sensations, digestive derangement. The swelling of the skin commonly set in abruptly after mental or emotional perturbation and disappeared as suddenly; sometimes it appeared to depend upon alcoholism. It is usually unilateral in distribution, and in females its occurrence is favored by the menstrual or the climacteric period. Its cessation is dependent upon the improvement and removal of the nervous condition with which it is associated.—*Medical News*.

THE GRIP-LUNG.—The grip-lung, according to Elliott, has a long and very varying condition of passive blood stasis unaccompanied by rales. If resolution occurs within three or four days, it is accompanied by large mucous rales and no time is given for the slow appearance of bronchial breathing or bronchophony; but during the long continuance of the blood stasis, an exudation occurs, increasing slowly, which will give, in time, some bronchophony and bronchial breathing, but never so complete as in pneumonia. Resolution never occurs in these cases with the suddenness that characterizes it in acute pneumonia the condition passes off as gradually as it formed. The sharp, clear-cut and sudden phases of the pneumonic attack separate it clearly from the obscure, irregular and slow phases of the grip lung.

DOUBLE UNIOCLAR DIPLOPIA.—Thompson (*Ophthalm. Rev.*, September, 1891) reports a case of a lady, aged 34, stunned in a railway accident, fronto-temporal injury, who at first had homonymous diplopia from pressure on the scar, and paresis of the left external and superior recti muscles. Later she saw double with either eye, the images being distinct and separated diagonally upwards and to the right. Central vision was 20-200 and there was great contraction of the visual fields. Thus it seems that this symptom is sometimes a symptom of organic cerebral disease. This accident was probably a lesion of the occipital lobe by concussion *contre coup*.

A PHOTOPHOBIA AND DILATATION OF PUPIL AS EARLY SYMPTOMS OF WHOOPING-COUGH.—Dr. Huguin, of Tourteron, affirms (*Union Med. du Nord-Est*, May, 1891) that

photophobia with dilation of the pupil is an early diagnostic symptom of whooping-cough, before the cough has become characteristic. He cites three cases in support of this opinion; in all of them these symptoms preceded any other manifestation of the disease.

ATAXIC DACRYORRHEA (EPIPHORA).—Dr. E. Koenig (*Progrès Med.*, October 31st, 1891) reports lachrymal crises amounting to epiphora in tabetics. Similar crises occur, as Spitzka has pointed out ("Insanity"), in parietic dementia, whence results the seemingly contradictory expression of an emotional state. The lachrymation is a depression with the buoyancy of emotional exaltation.

PARETIC DEMENTIA AND EPILEPSY.—Daguillon (*Journal des Scient.*, November 25th) reports a case of epileptic insanity assuming the periodic type and semiologically simulating parietic dementia. Kiernan (*Journal of Nervous and Mental Diseases*, 1878) has called attention to a possible etiological relation between such a type of epileptic insanity and parietic dementia.

FALSE SECONDARY SENSATIONS.—Dr. Sollier reports (*Progrès Med.*, December 3d, 1891) the case of a hypochondriac parietic neurasthenic who experienced subjective sensations of color when eructations occurred. Greenish discoloration, called by him a "cadaveric hue," was the most frequent; next, came violet, and then yellow.

COLOR SENSATIONS IN ONE EYE EXCITED BY COLOR ILLUMINATION OF THE OTHER.—Dr. A. Chaveau (*Journal de Soc. Scient.*, September 30th, 1891) decides after careful experimentation that colored illumination of one eye can produce true chromatic images in the other.

NEUROPATHOLOGY.

DEGENERATION OF THE SOLAR PLEXUS IN THE INSANE. Several experimenters have found that by inducing lesions of the solar plexus in animals they were able to produce glycosuria, acetonuria and albuminuria. A knowledge of these results led Dr. Cristiani to see whether the same abnormal substances occurred in the urine of mental patients suffering from degeneration of the solar plexus.

lesion which has been found by him to be evidenced by so-called "vaso-paralytic diarrhea." (*Riforma Med.*, September 17th, 1891). This triad of symptoms, if it were found to occur constantly in such patients, would be a valuable aid in the diagnosis and prognosis of this form of diarrhea. With this object the author undertook the examination of the urine of ten such patients, comparing the results with others obtained in fifteen cases of simple intestinal catarrh and in a similar number of patients without diarrhea.

The results are as follows: Glycosuria and albuminuria were found in all the first ten patients, but were absent in the thirty others examined. From a large number of observations by the same author these two signs seem to be very rarely present in asylum patients not suffering from nervous diarrhea. Acetonuria, which is a constant and lasting phenomenon after experimental lesions of the solar plexus in animals, was entirely absent in the cases observed. As regards the glucose and albumen, either one or the other or both together, would be found on various occasions. In regard to the period of the disease, these symptoms were inconstant as to time of appearance or duration. The fact remained, however, that in the patients with diarrhea originating in solar disease they were sure to be discovered sooner or later, if daily analyses of the urine were made, while in the urines of the others no such abnormal products were discoverable.—*Brit. Med. Jour.*

THE LOCALIZATION OF THE AUDITORY CENTER.—Chas. K. Mills reports, in *Brain*, Part LVI., 1891, a case in which word-deafness followed an apoplectic seizure, and more complete deafness and partial left-sided paralysis followed a second apoplexy. The autopsy showed lesions of the first and second temporal convolutions of both hemispheres and a lesion of the first and second temporal convolutions of the left hemisphere, which probably accurately localizes the center for word-hearing.

Following are the writer's conclusions:

1. The center for word-hearing is situated in the hinder thirds of the first and second temporal convolutions. Its exact position is in a line with, or just in front of, the posterior extremity of the horizontal branch of the fissure of Sylvius. Possibly, it is restricted to the second temporal.

2. The third, fourth and fifth temporal convolutions take no part in cerebral audition.

3. A lesion confined to the posterior thirds of the first and second temporal convolutions of the left hemisphere will produce complete, or almost complete, word-deafness, the corresponding regions of the other hemisphere remaining intact.

4. An isolated lesion of the center for word-hearing, producing absolute, or nearly absolute, word-deafness, does not necessarily cause inability to recall words by other means, as, for instance, through their visual signs. In such cases, probably, the meaning of the word is understood, although the name cannot be properly verified in consciousness.

TUMOR OF THE PITUITARY GLAND.—Dr. Roscioli (*Il Manicomio*, 1890) says: "The age of the patient was 58 years. Since the age of four he had been troubled with attacks of sudden blindness, insomnia, delirium and hallucinations, and throughout all his life had been the victim of terrifying mental visions.

"At the time of his entrance into the asylum his condition was anæmic, showing poor state of nutrition, pupillary rigidity in the optic nerve and *mydriasis*, nictati and trembling of the head, but not by other troubles of motility and sensibility. Shortly after the progression of this state of affairs came contractions in the inferior members and exaggeration of the reflex patella, with sudden death in an apoplectic form.

"*Diagnosis.*—Tumor without exact localization.

"*Autopsy.*—Adenocarcinoma of the hypophysis, swelling of the genu, exercising a strong impression on the *chiasma* and the optic nerves which are *atrophied*. Compression of the *tuber cinereum* and of the adjacent parts of the base of brain."

CONDITION OF THE CEREBRAL CIRCULATION DURING AN EPILEPTIC ATTACK.—W. Bechterew (*Neurologisches Centralblatt*, No. 22, 1891) has experimented on dogs and cats. The convulsions were artificially produced by irritation of the cortex by the faradic current or by injection into the circulation of absinthe, cinchonin or cinchidin. The cerebral vessels were observed through an opening in the skull, into which a watch-glass had been inserted, and showed during the epileptic paroxysm increase of blood supply and dilated capillaries.

CLINICAL PSYCHIATRY.

RECOVERIES FROM MELANCHOLIA.—Dr. D. Yellowlees reports (*Jour. of Mental Science*, January, 1892) a case of melancholia which recovered after a decade of insanity. The patient had the delusion that she was the devil. She was one evening persuaded to play whist and became interested in the game. Soon after she began to take interest in her surroundings and thenceforth convalesced. In another case the melancholia had lasted fifteen years. The patient refused food and had to be fed. A spoonful of food had been placed in her mouth when her chair tilted over. She gulped down the food. Thenceforth she took food freely and convalesced. In both cases the influence of a healthy conception at variance to and dominating the mental state was evident.

THE BLOOD AND URINE OF THE INSANE.—Dr. J. Smith (*Journal of Mental Science* for October, 1890) notes the lessened proportion of hæmoglobine among the insane, especially in secondary dementia. It is not marked in melancholia, general paralysis or epilepsy. The specific gravity of the blood is increased without loss of hæmoglobine and red corpuscles. The urine is excessive in general paralysis, diminished in secondary dementia, normal in other forms of insanity and lessened in melancholia. Urinary solids are abundant in general paralysis, much diminished in secondary dementia, presenting nothing unusual in the other forms of mental disease. Uric acid is excessive in general paralysis, epilepsy and dementia, phosphoric acid slightly excessive in epilepsy.

CARDIAC RUPTURE IN THE INSANE.—Dr. J. Bruce, Dumfries, Scotland, reports (*Jour. of Ment. Science*, 1892) the case of a 70-year old periodic lunatic. During the quiet period his heart was steady and regular, but became, during excitement, rapid and feeble. He had for years a mitral systole murmur and was gouty. He died during an attack of excitement. The left ventricle had ruptured.

Dr. Nash, Richmond Asylum, Dublin, describes a cardiac rupture in a 68-year old melancholiac, who, subsequent to acute pneumonia, ruptured the heart. There was a rent in the left ventricle partially closed by a clot. The patient rallied and survived the rupture forty-eight hours.

DIATHESIS OF PARETIC DEMENTIA.—Some French alienists have endeavored to establish a diathesis underlying paretic dementia. Dr. G. R. Wilson (*Jour. of Ment. Science*, 1892, No. 1), who attempts the same task, states that what was formerly called the "sanguine temperament," predisposes to paretic dementia. There is restlessness and changes of career. The type has a large belief in himself, restless ambitions and with a desire for the good things of life, but incapable of altruism and inclined to self-adornment for sexual attraction reasons.

NEURO-SURGERY.

OSTEOPLASTY TO FILL DEFECTS IN THE CRANIUM.—Dr. K. J. Lennander first gives a short review of osteoplasty as far as it concerns the cranium. He then gives two cases in which defects in the cranium were filled with bone. A laborer, 31 years of age, fell from a straw stack and struck his head upon an iron pin. Back of and above the left ear there was a slight wound in the skin. The patient returned to his work and was apparently well until seven days after, when he was found insensible. Examination of his skull at the hospital showed a hole to be crushed in his cranium two cms. in diameter. Three quite large pieces and several small splinters were removed. These had penetrated through the dura and lay imbedded in a purulent mass. The wound was irrigated and dressed antiseptically. The patient returned to consciousness a few hours after the operation, but aphasic symptoms persisted for two weeks. The brain substance protruded, forming a hernia; this increased in size rapidly. Sixteen days after the first operation the granulations were scraped away and the periosteum loosened around the opening, which was three by two and one-half cms. in diameter. A piece of the anterior portion of his left tibia was then chiseled from the bone, with the periosteum adherent, together with some of the extraperiosteal tissue. This lamella was 2-3 mm. in thickness and was of the same form and thickness as the defect in the cranium. It was placed in the opening with the periosteum lying inward; the scalp was then drawn over the opening and sutured with deep sutures. Both the tibial and the cranial wounds healed

by first intention. A little over a month after the second operation the patient was discharged well and able to work. The cranial defect was filled with a firm and hard tissue. The patient was examined several months after and found to have represented no changes in the filled defect. In his second case a defect of the size of one's finger was filled. The opening was in the right parietal bone and was covered by a piece of the internal table which had been broken loose and buried itself in the cortex of the brain. It healed in by first intention, under a dressing. The patient, a 48-year old peasant, was examined two and one-half months after the operation and then no defect could be felt in the cranium.—*Upsala Laekareförfening Foerhandlingar*, bd. 26, page 319.

TREPHE IN PARETIC DEMENTIA.—Rey (*Jour. des Soc. Scient.*, Sept. 30th) concludes after due trial that the trephine may temporarily ameliorate paretic dementia, but cannot produce permanent results.

NEUROPHYSIOLOGY.

THE AUDITORY CENTER.—Dr. Charles K. Mills, in the *University Medical Magazine*, concludes that the center for word-hearing is situated in the hinder thirds of the first and second temporal convolutions; its exact position is in a line with or just in front of the posterior extremity of the horizontal branch of the fissure of Sylvius. Possibly, it is restricted to the second temporal convolutions.

The third, fourth and fifth temporal convolutions take no part in cerebral audition.

A lesion confined to the posterior thirds of the first and second temporal convolutions of the left hemisphere will produce complete, or almost complete, word-deafness, the corresponding regions of the other hemisphere remaining intact.

The field or sphere for all auditory memories covers a much larger cortical area than that for word-hearing, including at least the posterior two-thirds of the first and second temporal convolutions.

The auditory field and special auditory centers have their highest development in the left hemisphere, but destruction of the auditory areas of the two upper

temporal convolutions of both hemispheres is necessary to complete brain-deafness.

A lesion limited to the center for word-hearing and causing word-deafness will cause also paraphasia in attempts at speaking and paralexia in attempts at reading.

An isolated lesion of the center for word-hearing, producing absolute, or nearly absolute, word-deafness, does not necessarily cause inability to recall words by other means, as, for instance, through their visual signs; in such cases probably the meaning of the word is understood, although the name cannot be properly verified in consciousness.

A cerebral lesion or lesions causing word-deafness will, in time, lead to secondary atrophy of the speech and ora-lingual centers on the motor or emissive side of the brain, and also to atrophy of the association tracts between the sensory and motor-hearing speech centers.

The retro-insular convolutions are anatomically and functionally closely related with subdivisions of the first temporal convolution, the most posterior of these retro-insular convolutions being continuous with the posterior half or two-thirds of the first temporal convolution.

EDITORIAL.

[*The Editor is responsible for all Unsigned Editorial Matter.*]

New Theory on the Functions of the Cerebellum, by Tolet.—The author was struck one day with the insufficiency of Flourens' theory of the functions of the cerebellum; it is known that he does not believe it to possess the simple function of co-ordination. According to Courmont, the cerebellum has also psychical functions; to prove this he searched into all the cases of disease of the cerebellum in medical literature, which appear to have confirmed his hypothesis, based principally on the analogy of structure between the cerebrum and the cerebellum. He looks upon the former as the organ of the intellectual faculties, the latter of the moral perceptions.

1. There exists a number of anatomical analogies between the cerebrum and the cerebellum. This has less size, but its folds extend more over the surface, increasing the cerebrum still more by the extension of the gray substance, compensating for the inferiority resulting from the less size. The relative weight of the cerebellum is greater in woman than in man, which fact concurs with this one, viz., that the moral sensibility is more developed in woman than the intellectual faculty. Jessen and Kölliker have taken up this fact again and demonstrated the insufficiency of present theories in regard to the function of the cerebellum.

2. Some antecedent physiological experiments for an altogether different design support the new theory. Vulpian and Ferrier, to explain their experiments in decapitation, have admitted that the animals from whom they have taken the cerebellum and the hinder cerebrum, were still in possession of affective faculties.

3. This chapter contains arguments which the author found in nervous pathology, to support him in his new theory.

4. Experimental proofs: the rat, which is an animal so irritable and so cowardly, has an excessively developed cerebellum; it has a prominent cerebellum, but no distinguishing sort of psychical symptoms, but the irritability, the tendency to run away, is most marked.

5. *Comparative anatomy*: the degree of development of the cerebellum does not depend on the motor faculties of the animal, as it would if the cerebellum had only motor functions. All mammals near the water have the cerebellum well developed; all zoologists know how marked in these animals is friendliness and their love for their young, for whom they will sacrifice themselves in cases of imminent danger.

6. The author understands the protuberance in the nervous systems of the brains. In it is constituted the great connecting point between the two sides of the brain. All the cranial nerves are dependent on the emotional activities taking their origin in the cerebellar system—facial, lachrymal and acoustic musical. In psychiatry, Calmeil has demonstrated that in cases of paralytic dementia with predominance of the emotional symptoms, the injuries are principally located in the cerebellum.

7. The cerebellum is not only the organ of psychical but also of the bodily sensibilities; connection of the sensory roots of the *trigeminus* portion of posterior the marrow with the cerebellum. It is noticed, moreover, that we have troubles of sensibility in all affections of the cerebellum.

8. There is a sort of contrast in the disposition of the central nervous system. The cerebrum is the anterior portion of the backbone having the motive faculties; the cerebellum is the posterior portion of the marrow having the sensory functions.

The cerebellum and the cerebrum both play a psychical rôle; one is the organ of intelligence; the other of psychical sensibility. In the cerebellum we clearly see the relation existing between its bodily and psychical functions. It is not thus in the cerebrum.

All agitation bearing upon the posterior system excites by reflex upon the anterior system. In the reflex system, cerebello-cerebral, the cerebellum forms the sensory organ. The *inco-ordination* that is noticed in disease is of reflex origin. Thus, also, without doubt is explained the vertigo of patients having acoustic affections.

The cerebellum has an important part, although indirectly, in the mobility of the organization.—*Neurologisches Centralblatt*, 1891.*

* Translated by J. D. B., from epitome in *Bulletin de la Société de Médecine Mentale de Belgique*.

Nerve Counterfeits of Uterine Disease.—Professor William Goodell's admirable and timely paper on this subject has led Dr. Henry D. Ingraham, Professor of Gynecology of the Medical Department of Niagara University, to enter another protest "against the unnecessary or heroic treatment of the uterine organs of women who are suffering chiefly from nervous exhaustion or a hyperæsthetic condition of the nervous system, also, incidentally, to protest against the unnecessary vaginal examination of young unmarried women."

We congratulate gynecology again on its return to reason on this subject.

But why call their diseases "nerve counterfeits of uterine disease?" Why not call them what they really are—involvements of the nervous system not dependent upon or associated with uterine disease, and the other condition, nervous diseases, complicating, accompanying or caused by (where that is demonstrably the fact) uterine disease?

This valuable clinical contribution (we had almost said confession) very properly concludes with the following quotation from Dr. Goodell: "The crying medical error of the day is, in my opinion, the mistaking of nerve disease for womb disease." And we fully agree with both of these eminent gynecological authorities.

Could all of our gynecological friends trace those of their cases of neurasthenia treated locally in vain and even sometimes spayed without benefit, to their final recovery in neurological hands or ultimate irreparable misery or death from this eternal tinkering with the special organs of womanhood without just warrant of local disease, they would all "give us pause" and reconsider.

Truly, as the author before us quotes, "life is big with shattered hopes and wrecked ambitions and life is therefore full of wrecked and shattered nerves," in women as well as in those whom nature has not endowed with uteri and appendices or afflicted with menopauses or catamenia.

The prayer of the neurologist in behalf of the neurasthenic woman is for rest for her whole organism, including her genitalia from needless irritation and unnecessary gynecological operative disturbances pending her recuperation. This does not include a protest against the treatment of the real consequences of gyneciac disease nor of those

uterine disorders which are the result of neuropathic disorder, the hyperæmias, the inflammations, the hyperplasias, morbid growths and grave traumatisms and displacements, irritating lacerations, etc., and these are surely numerous enough to keep gynecology employed.

The clinical fact is that many women need both the conservative gynecologist and the most skillful of neurologists to successfully conduct their cases. If we might suggest a motto, we would say for neuropathic women with gyneciac disease: "*In modo suavior, in re necessitat extremite fortitor, in omnia prudentia.*"

A Physicians' Bureau of Service and Information to be opened to the Physicians and Surgeons of the World.—Charles Truax, Greene & Co., dealers in physicians' supplies, Chicago, believing they can be of service to physicians who may attend the great Columbian Exposition, to be held in Chicago in 1893, propose to establish and maintain during the entire session a Bureau of Service and Information for the exclusive use and benefit of visiting physicians and surgeons and their families. Ample room will be provided for the successful operation of each department and additional space set aside for the use of the secretaries and other officers of medical societies and conventions. No charge will be made for the services here offered and all who are legitimately engaged in the practice of *medicine* or *surgery* will be made welcome.

The services offered are to include registration, a list of leading hotels and boarding-houses, receipts of telegrams, a miniature post-office where mail matter may be addressed to their care.

Banking Facilities.—Cash will be paid out during banking hours from currency deposited with them and from funds forwarded them direct from banks. Moneys sent them by banks for credit should be accompanied by signature of depositor. Checks and drafts will not be cashed and will be received only for collection.

Telegraph, telephone, stenographic, district messenger, livery, cab, express, baggage and freight service arranged for in the building and legitimate rates secured. Parcels and small packages will be received and checks issued for the same. A reading and reception room, with writing facilities and stationery, where physicians may meet their friends, attend to correspondence, etc. Theater

exposition, sleeping-car and railway tickets will be secured and assistance rendered in purchasing goods in all lines of trade. Office room and desks, in or adjoining the general headquarters, will be provided for the secretaries and other officers of medical societies and conventions. German, French, Spanish and other interpreters will be permanently located in the building.

The Reform in Gynecology.—The *Medical News* thus epitomizes what one of the leading apostles in gynecology confesses to have unlearned and the newer gynecological creed as follows:

WHAT I HAVE LEARNED TO UNLEARN IN GYNECOLOGY.—Under this caption Dr Wm. Goodell gives his experiences. He had learned that the climacteric is not responsible for most of the ills of motherhood, and especially, for menorrhagia, as properly taught; that uterine hemorrhages, indeed, and other uterine discharges, can rarely be traced to the climacteric as a cause in itself; that the so-called "critical discharges" and "change of life" are misnomers which, too often, lead to indolent diagnosis and slovenly therapeutics. He has learned that operations, if time be precious, need not be deferred on account of menstruation. The menstrual period is the best time, in fact, to curette for fungus vegetations. The only operations which offer serious objection at this period are those upon the uterus itself, and because of its increased vascularity and danger of hemorrhage. He has learned that antelexion and anteverision in themselves—without narrowing of the canal—are not necessarily pathological; that pessaries for these conditions, except occasionally a stem pessary for stenosis, are rarely useful; that irritable bladder is generally the result of nerve exhaustion, a lack of brain control, and not of pressure of an antelexed fundus. He has long abandoned the idea that the parturient woman must be swathed like a mummy and be kept as immovable. He finds no objection to her turning from side to side, sitting up, and even getting up to use the commode, if she feels like it. He does not believe that mammary abscess comes from "caked" or over distended breast, but from cracked nipples; that uterine catarrhal secretions are any greater drain than those from the nose, or that they require heroic treatment; that cellulitis is at the bottom of most female ailments and that the hot water douche is its cure-all. He believes that the latter has even caused ovaritis, salpingitis and periuterine inflammation and that the supposed cellulitis and exudations are usually tubal and ovarian lesions. The hardest task of all was to learn that uterine symptoms are not always present in uterine disease, or that when present, they necessarily come from uterine disease. They are nerve symptoms. Nerve-strain or nerve-exhaustion comes largely from the frets, the griefs, the worries, the cares and cares of life, and their symptoms simulate uterine disorders and are almost uniformly attributed to them.

The tricky nerves, when underfed or overworked, or out of discipline, billet themselves upon some maimed organ and hold high revel there. Thus, a woman hitherto in perfect health, though having an adherent or dislocated ovary, a torn cervix, a narrow cervical canal, a slight displacement, has her nervous system unstrung and at once there are set up vesical, uterine and ovarian symptoms. Dr. Goodell sums up his gynecological creed: "*I believe that the physician who recognizes the complexity of woman's nervous organisation and appreciates its tyranny will touch her well-being at more points and with a keener perception of its wants than the one who holds the opinion that woman is woman because she has a womb.*"

Certainly, this is good news at last for poor, spayed, pessariated, douched, needlessly cauterized and anatomized woman. Henceforth, she is to be recognized as a being who may be ill somewhere else than in her genitalia, requiring treatment elsewhere than in her womb, at times. At last, thanks to outspoken neurology, her neural mechanism is to be taken account of in her ailments and to receive some therapeutic attention. She is to be regarded as a being to be treated all over when she is sick if she should require such treatment, just like a man. She is to be recognized as subjected to the influences of environment in regard to the causation of her diseases as well as to the morbid domination of the womb. She is to be recognized as a being subject to nerve-strain and brain-fag, just like a man, and no more liable to be oöphorectomized for it than her masculine congener is to be castrated for like conditions.

"The frets, the griefs, the worries, the cares and cares of life," from which "nerve-strain or nerve exhaustion so largely comes," are to be recognized by minds dominant in gynecological thought. "The tricky nerves when underfed or overworked or out of discipline," are to receive so long-ignored gynecological attention and neurological advisers are not henceforth to be given to understand that they know nothing about woman; that she and all her ailments belong only to the *womb-man*.

The womb turned awry, the uterine catarrh, the tender ovary and graver uterine conditions are to be admitted as sequences sometimes of the diseases from which women suffer and not always pronounced the *fons et origo* of nearly all of her maladies as some have in the past been prone to think. The vagina as a gynecological tool chest and toy shop for the display of the handiwork of pessary cranks, will have no place at the Columbian exhibition. A rational gynecology that recognizes woman

as a being, not only of sexual organs but possessed of other than a uterine system to account for some of her manifold ailments, is henceforth to prevail.

Well said, Dr. Goodell. Now neurology and gynecology join hands in the rational treatment of woman. She has a womb and appendages and she has many local diseases, but she likewise has other organs. She has also a heart to feel and a head to think. Let us feel in our hearts and think in our minds for her and morally apply to our treatment of her the golden rule; then let us together, forgiving and forgetting the errors of the past, confess to the new creed: "*I believe that the physician who recognises the complexity of woman's nervous organisation and appreciates its tyranny, will touch her well-being at more points and with a keener perception of its wants than the one who holds the opinion that woman is woman because she has a womb.*" With this creed for our clinical faith woman will be henceforth safe in the hands of the physician, even in the hands of the gynecologist. With this creed the day dawns for woman. The light which presages her emancipation from the tyranny of clinical error, shines. Her genitalia are to be taken care of as heretofore and remedied of all diseases but not as the fountain source of all of her diseases.

Henceforth she is to be regarded as a neurological and psychological being, as well as a poor, pitiable gyneciac creature to be treated in only one spot. Hail her deliverance! Gynecology now proclaims it!

The Mattison Prize.—Opium Addiction as Related to Renal Disease.—A Prize of Four Hundred Dollars.—With the object of advancing scientific study and settling a now mooted question, Dr. J. B. Mattison, of Brooklyn, offers a prize of \$400 for the best paper on "Opium Addiction as Related to Renal Disease," based upon these queries:

Will the habitual use of opium, in any form, produce organic renal disease?

If so, what lesion is most likely?

What is the rationale?

The contest is to be open for two years, from December 1st, 1890, to either sex, and any school or language.

The prize paper is to belong to the American Association for the Cure of Inebriety, and be published in a

New York medical journal, *Brooklyn Medical Journal* and *Journal of Inebriety*.

Other papers presented are to be published in some leading medical journal, as their authors may select.

All papers are to be in possession of the Chairman of Award Committee, on or before January 1st, 1893.

The Committee of Award will consist of Dr. Alfred L. Loomis, Pres. N. Y. Acad. of Medicine, Chairman; Drs. H. F. Formad, Philadelphia; Ezra H. Wilson, Brooklyn; Geo. F. Shrady, and Jos. H. Raymond, editors of *Brooklyn Medical Journal*.

Alvarenga Prize of the College of Physicians of Philadelphia.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Señor Alvarenga, and amounting to about One Hundred and Eighty Dollars, will be made on July 14th, 1892. Essay intended for competition may be upon any subject in Medicine, and must be received by the Secretary of the College on or before May 1st, 1892. It is a condition of competition that the successful essay or copy of it shall remain in possession of the College. Charles W. Dulles, Secretary.

The Influenza Epidemic on the Continent.—*The Journal of the American Medical Association* notes the fact that Charcot and Billroth have, about the same time, been victims of the epidemic. At the time that Billroth was ill, there were four or five others, professors in the University, who were prevented by the same cause from going on with their lectures or clinics. The lunatic colony at Gheel has had many cases of *la gripp* and many deaths and many prostrating sequelæ.

Dr. D. Hayes Agnew.—"One of the grandest, most statesely, most kindly-courteous, most modest, yet scientifically learned figures in American surgery has passed away. No man better illustrated the beautiful significance of the misused word gentleman than did Dr. D. Hayes Agnew in his relations with his patients and his professional brethren. No physician has excelled Dr. Agnew in personal devotion to the highest ideals of the profession as exemplified in conduct. His modesty was often evinced in a tribute to his medical brethren, One

called into court as a surgical witness he was asked his opinion of the mental state of the patient. He replied: "I am not an expert in psychiatry and prefer to leave the question for the learned experts whom I see present, to decide."

"He detailed facts, however, in a manner which indicated a keen psychological insight. Dr. D. Hayes Agnew was born in Lancaster County, Pa., in 1818. He graduated at the University of Pennsylvania in 1838. After some time spent in general practice in the country, he removed to Philadelphia, where he early assumed prominence as a surgeon—no little testimony to his ability when the galaxy of stars which then adorned Philadelphia surgery is remembered. He became associated with the Philadelphia Hospital in 1854, and did much to promote the study of surgical pathology within its walls and established its pathological museum. He began a series of lectures at the Philadelphia School of Anatomy, which practically ceased to exist after his resignation therefrom in 1862. In 1863 he was appointed demonstrator of anatomy and assistant lecturer in clinical surgery in the medical department of the University, and about the same time he was chosen one of the surgeons of Wills Ophthalmic Hospital. In 1865 he was chosen surgeon of the Pennsylvania Hospital and was also made surgeon of the Orthopedic Hospital. In 1870 he was chosen to fill the chair of operative surgery in the University, and in 1871 that of the principles and practice of surgery, and later became professor of clinical surgery in the University Hospital. In December, 1888, he resigned from the chair of surgery in the University of Pennsylvania and delivered his last lecture April 5th, 1889. Dr. Agnew has made many valuable contributions to medical literature, among which may be mentioned "Practical Anatomy," "Lacerations of the Female Perineum and Vesico-Vaginal Fistula," a series of sixty papers on "Anatomy and its Relation to Medicine and Surgery," his "Principles and Practice of Surgery;" this has been translated into the Japanese language, and was the great work of his life. In it he has a long-enduring monument."

The *Medical Standard* contains the above reference to this distinguished physician, of whom all Americans were so justly proud. We transcribe this eulogy with our cordial approbation.

A Nunervo.—The properties of coal tar, to let our proprietary friends tell them, are limitless. In this wonderful mineral agent are potentialities to kill almost all the ills to which poor human flesh is heir. To find a new therapeutic property it seems only necessary to devise a new name. To sulphonal, antipyrine, phenacetine, exalgine, antikamnia, etc., have been added a number of others, but the last has been very appropriately named *Nunervo*. And this is what it will do: antipyretic, analgesic and nervine; valuable in neuralgia, hemicrania, acute *rheumatism*, insomnia, delirium, *dysmenorrhœa*, nervous headache.

Pathological States of the Pupil.—Dr. Harold Philipsen, of Copenhagen, Denmark, has made a careful study of this subject. In diseases of the brain the pupillary symptoms may appear either as general cerebral symptoms, together with headache, vertigo, choked disc, or as symptoms of disease of certain parts of the cerebrum, topically localized symptoms. The former are usually bilateral while the latter are generally unilateral. All brain diseases with a rapid course and rapidly occurring changes in the intracranial pressure must necessarily be accompanied by pupillary phenomena. Among these are hemorrhage, either traumatic or spontaneous, hyperæmia of the meninges, inflammations, with the formation of exudates or accompanied by œdema, while cerebral diseases, with slowly increasing intracranial pressure need not be associated with pupillary symptoms. In such cases the symptoms are bilateral. In subdural hemorrhages one not rarely finds unilateral pupillary symptoms and when the patient is observed early, before changes in the intracranial pressure have had opportunity to develop, it may be regarded as a focal symptom, indicating on which side the hemorrhage has occurred. In pure concussion of the brain there should be no changes in the pupil; if such exist, they denote a complication, possibly subdural hemorrhage. Simple congestion of the meninges may produce pupillary phenomena, for example, in sunstroke we find, as a rule, contracted pupils. Contracted pupils and injected conjunctiva are the premonitory signs, according to Förster, of convulsions in children from cerebral hyperæmia. The pupil is also influenced in inflammatory conditions of the membranes of the brain. Griesinger emphasizes the contracted pupil

as characteristic of the apoplectiform attack of hemorrhagic pachymeningitis. The narrow pupils of meningitis, both tuberculous and non-tuberculous, and especially, basilar meningitis, are no doubt due to local action of the exudate upon the motor oculi nerves at their places of exit. Hence, one finds the pupils of unequal size. Not rarely one finds more or less rhythmic contractions of the size of the pupil-hippus. In intracranial hemorrhage, the state of the pupil varies according to the extent and violence of the effusion. Some writers would differentiate cerebral hemorrhage from cerebral embolism by the presence of a normal pupil in the latter condition. The writer formulates the following: Greater hemorrhages and embolism of great extent may be accompanied by pupillary phenomena, while lesser hemorrhage and embolism of less extent may be unassociated with pupillary symptoms. Hemorrhage into or embolism of the pons may produce pupillary symptoms; here the contraction may be either unilateral or bilateral. Still, a similar picture, coma with contracted pupils, etc., may be due to poisoning by opium. Affections of the most anterior portions of the pons are liable to be accompanied by pupillary phenomena, probably as a consequence of direct irritation of the nucleus of the sphincter iridis, in the floor of the third ventricle. Cheynes-Stokes breathing, so frequently a symptom of brain diseases, presents contracted pupils with a loss of reaction to light during the pauses. Contracted pupils usher in hysteric and epileptic attacks, while during the convulsion the pupil is dilated and without reaction. The same holds true of the attack of cortical epilepsy. In progressive paresis, the pupillary symptoms are focal and of a varying origin. They may be due to disease of the ependyma of the floor of the third ventricle, with paralysis of the sphincter iridis, in sufficient reaction to light and inability to converge.

These are most frequently the first symptoms noticed. Most often one finds a one-sided dilation, which may persist a long time, to disappear or jump over to the other eye—jumping mydriasis. This may also be due to syphilis and no brain disease necessarily follow. (See, 1, *Lyder Borthen*: "De Topisk-diagnostiske Forhold ved ensidig isoleret reflektorisk Pupille-Ubevaegelighed ('Pupillenstare'). Norsk Magazin for Laegevidenskaben, No. 2, 1892."—2, *Moeli*: "Ueber die Pupillenstarre bei der

progressiven Paralyse. Archiv. für Psychiatrie, Bd. XVIII." —3, *Hirschberg*: "Ophthalmosemiotik bei progressiver Paralyse und Tabes Dorsalis."

The writer has observed several such cases through twelve to sixteen years. The reflex movements may be normal even if dilatation be present; others may present loss of reflex. In mental diseases the condition of the pupil varies, though changes are frequent. Any mental affection may run its course without pupillary symptoms; on the contrary, they may be present, as unilateral or bilateral states, may appear and disappear. According to Orndt, nervous individuals have, as a rule, dilated pupils. The same holds good in those mental diseases which run an acute course, as mania and melancholia, as long as they are not accompanied by stupor or depression. Contraction of the pupil is in such cases a premonition of a threatening paretic state. Spastic myosis is also a symptom of disseminated sclerosis of the brain and spinal cord. Persons who work at fine work and strain their accommodation or use glasses, have usually very contracted pupil, from increased accommodative tension, due to sphincteric contraction. Lesions of the third nerve, wounds of the cornea, foreign bodies in the eye, operations on the conjunctiva and inflammations of the iris, induce a reflex spastic myosis. In poisoning by opium or chloral the pupil is contracted down to the size of a pin-head. Noël claims the pupil to be contracted in tobacco amblyopia and dilated in that of alcohol; the writer cannot sustain this. Spastic myosis may be present in any brain disease. Paralytic myosis is generally due to an affection of the cervical chord; it may be either single or double. It appears in chronic, inflammatory degenerative diseases of the spinal cord, especially in tabes dorsalis. It is not constant, is combined with loss of pupillary reflex—Argyll-Robertson's pupil, and may present some dilatation during the gastric crises and attacks of lancinating pains. Paralytic myosis may be an early symptom of tabes dorsalis, yet it is more frequently seen in an advanced stage of the disease. This disease, however, may run on for years, or even its entire course, without presenting a pupillary symptom. Poliomyelitis anterior, myelitis cervicalis, transverse spinal meningitis, tumors and hemorrhages into the cervical

paralysis generally does not present pupillary symptoms, and when it does, it is due to some complication: poliomyelitis anterior or disseminated sclerosis. Diseases of the cervical sympathetic are accompanied by oculo-pupillary, vasomotor and trophic symptoms. The pupil is narrow, reacts to light, the ocular fissure narrowed and the eye sunken in the orbit. There is vascularization, perspiration, and later, atrophy of the corresponding side of the face. The causes are traumatism, severing or lesion of the cervical sympathetic by piercing or cutting instruments, or injury during surgical operations, gunshot wounds, fractures of the clavicle, where the brachial plexus has been involved, tumors of various kinds, abscesses, swollen lymphatic glands, etc., the diseases of the upper portions of the thorax especially with mediastinal tumors, aneurisms, etc., are often accompanied by paralytic myosis. Among these latter may be reckoned those cases where paralysis of the sympathetic follows disease of apices of the lungs and their investment, as in pleuritis, where branches of the sympathetic are found imbedded in masses of pleuritic exudate and glued to the apex.

Hospitals-Tidende, Nos. 40 and 41, 1891. The Scandinavian medical literature has recently produced, besides this article, two others on the eye, its abnormal movements and their diagnostic importance: 1, *Ole Bull*: "Ojines Bevægelse, Abnormiteter deri og disses diagnostiske Betydning. Norsk Magazin for Lægevidenskaben, p. 373-404, 1891." 2, *Lyder Borthen*: "De topisk-diagnostiske Forhold ved ensidig isoleret reflektorisk Pupille-Ubevægelighed. Norsk Magazin for Lægevidenskaben, No. 2, 1892."

Horsford's Acid Phosphate.—(Another Free Ad.)—From a daily newspaper, the *St. Louis Globe-Democrat*, we extract the following, with the guarantee that any unfortunate suffering from pronounced premonitory symptoms of melancholia and relying on any acid phosphate to save him, will most likely find a speedy, if not a final, home in an asylum for the insane:

FOR MENTAL DEPRESSION USE HORSFORD'S ACID
PHOSPHATE.

An acid phosphate is of some value as a nerve tonic, but for an intelligent firm like the Rumford Chemical Works to put such a delusive catch advertisement as the above in the daily papers is criminal though lawful crime.

It is in such cases that delays are especially dangerous and yet this intelligent and wealthy firm which has grown rich from legitimate advertisement in the medical press and from professional countenance, encourages such trifling with mental depression as must adversely seal the fate of many who may take its advice and rely upon acid phosphate and self-treatment in their mental depression, when they need a skillful physician to save them from a possible fate worse than death.

When business motives only inspire medical advice the golden rule of medical humanitarianism is apt to be lost sight of. Would Count Rumford himself rely on so slender a reed of support in mental depression from gastric troubles as Horsford's Acid Phosphates and not consult a thoroughly skillful physician? Would any of the Horsford Acid people do it?

The Next International Medical Congress will meet in Rome, in 1893. Dr. Baccelli will be President; Professor Maragliano, of Genoa, General Secretary. The Presidents of the various sections are as follows: Anatomy, Professor Antonelli; Physiology, Professors Albini and Albertoni; Pathology, Professors Bizzozero and Foà; Pharmacology, Professor Cervello; Clinical Medicine, Professors Baccelli, Maragliano, Murri and Bozzolo; Surgery, Professor Bottini; Obstetrics, Professor Morisani; Psychiatry, Professors Morselli and Tamburini; Ophthalmology, Professors Devincenzi and Secondi; Dermo-Syphilopathy, Professors Campana and Barduzzi; Forensic Medicine, Professor Tamapia; Hygiene, Professors Pagliani, Celli and Canalis.

The Forty-Sixth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane will be held at the Arlington, Hotel, Washington, D. C., May 3, 4, 5 and 6, 1892. The officers are: President, Daniel Clark, M. D., Toronto, Ontario; Vice-President, Judson B. Andrews, M. D., Buffalo, N. Y.; Secretary, John Curwen, M. D., Warren, Penn.; Committee of Arrangements: W.

W. Godding, M. D.; John Curwen, M. D., *ex-officio*; Henry M. Hurd, M. D.; Benjamin Blackford, M. D.; Edward N. Brush, M. D.

The programme will include the following subjects: "The Surgical Treatment of Insanity, Epilepsy, Etc.;" "Results from the Study of the Brain of Laura Bridgman;" "What is Restraint?" "Improved Methods of Caring for the Insane;" "Separate Provision for Epileptics, both Public and Private;" "Affections of Speech in the Insane;" "On the Motives which Govern the Criminal Acts of the Insane;" "The Care of the Criminal Insane;" "The Adverse Consequences of Repression;" "The Cause of Insanity;" "Sexual Vices—Their Relation to Insanity, Causative or Consequent." Obituary notices of Drs. Richard Gundry, J. P. Bancroft, S. S. Shultz, W. W. Reeves and Joseph Draper.

The Second Annual Meeting of the American Electro-Therapeutic Association will be held in New York, October 4th, 5th and 6th, 1892, at the N. Y. Academy of Medicine, 17 West Forty-third Street. W. J. Morton, M. D., President, H. R. Bigelow, M. D., Secretary.

The Newspapers of Nemes, France, have just harvested a first-class sensation, for which they are indebted to a lunatic merchant named Faure, doing business in one of the most frequented streets of that city. He is a dealer in shoes and had on several occasions manifested slight signs of mental derangement. One morning a letter carrier, named Boudon, entered his shop to deliver a newspaper. Faure felled the unsuspecting carrier with a blow, bound him securely and, exhibiting a revolver, coolly remarked: "If you move I will blow your brains out." The carrier vainly attempted to reason with his captor, who simply repeated his previous threat.

Boudon quietly submitted, hoping that some fortuitous circumstance might operate his delivery. He waited in vain, but finally procured from the lunatic permission to write to the postmaster. Faure said that he would add a word to the letter and made this postscript: "The first person presenting himself in reply to this summons will be shot like a dog!"

In view of the gravity of the situation, the postmaster consulted a magistrate, who at once dispatched a body

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of gendarmes to the spot. When the latter arrived they found the interior of M. Faure's shop strongly barricaded and Boudon still a prisoner. The doors were forced by the gendarmes, revolver in hand and, at the same time, Faure discharged two shots from his own weapon at Boudon, who, providentially, escaped being struck by either. By a quick and well-directed blow Faure was disabled by a gendarme and then solidly bound. On being conducted to the police station through the enormous crowd stationed in front of the shop, the prisoner was with difficulty protected from their violence. Boudon, the letter carrier, whose martyrdom had extended from 9 o'clock in the morning until 3 o'clock in the afternoon, was conveyed to his home in a most pitiable nervous plight. Faure is 45 years of age, married and the father of several children. W. W.

Co-operative Practice of Medicine.—One cannot fail to observe the wonderful activity now and of late years especially manifested by certain enterprising manufacturers of eligible medicines, elegant and advanced formula and of new remedies prepared for ready administration by our reputable American wholesale drug houses.

Many of these preparations are most useful aids to the facile practice of the healing art and the firms themselves are important auxiliaries to the physician, by keeping him in familiar *rapproch* with pharmaceutical and therapeutical progress, stimulating alertness in searching for the new, agreeable, useful and, in some instances, keeping the practitioner from being satisfied with the "well enough" when something better may be found in form or substance for his patients and in not a few instances actually posting the doctor in a better way of medical administration and practice. The wise physician welcomes this auxiliary aid and extends his hand in cordial greeting to the advanced pharmacist who with helping hand may have something better to offer for his patient than the form or substance already in use.

Another View of Cerebellar Function.—Among our selections may be found a *review critique* by Seppilli, of the recently promulgated views of the functions of the cerebellum by that distinguished Italian physiologist, Luciani, in which it appears, as Seppilli

asserts, that the apparently so firmly-established position of Fluorens that the cerebellum is the motor co-ordinating organ of the body is not so indisputably tenable as the physiological world had come to believe. In fact it appears to be overthrown, at least in part, though we are not yet prepared to say with his distinguished reviewer, entirely demolished. Elsewhere we append also from *Neurologische Centralblatt*, for 1891, similar views from Tolet, antagonizing the long accepted doctrines of the great French physiologist and so the world moves 'round. Views similar to those of Luciani and Tolet appear to have been held before Fluorens astonished the world with his proofs of the balancing and co ordinating power of the cerebellum.

Cutaneous Discolorations in the Insane Resembling Bruises.—Under this title Drs. E. C. Spitzka ("Insanity"), J. G. Kiernan (*Jour. of Nerv. and Ment. Disease*, 1875), Clark (*Jour. of Ment. Science*, 1874) and a number of other American and English alienists, have described a trophic phenomenon in the insane. Drs. Froedefond ("These de Paris," 1879) Strauss (*Arch. de Neu.*, 1884), Faiscend (*These de Paris*, 1882), Keller (*Revue de Medicine*, 1884), Gilles de la Tourette ("Nour Iconograp. de la Salpêtrière," 1890), Athanasio (*These de Paris*, 1890), have described similar trophic phenomena in the neurotic class and in various neuroses. Dr. Saury (*Tribune Med.*, Dec. 31) describes brachial zona hyperhidrosis and spontaneous ecchymoses resulting from trophic causes in a hereditary hysterical paranoiac. As Dr. Saury points out, this phenomenon is of great forensic importance, since false accusations of violence could readily be and are made from the mere presence of such spontaneous ecchymoses.

Harrisburg Asylum.—The Lunacy Committee of Pennsylvania recently made an investigation of certain charges against the management of the male department of the Harrisburg Asylum. It was charged against Dr. J. Z. Gerhard, the Superintendent, that he failed to discharge several attendants whom he knew to be guilty of abusing patients. The first assistant physician, Dr. M. V. Gerhard, was also implicated in the charges. The chief witness against Dr. Gerhard was a young German attendant who had kept a diary for some time past and

who read extracts from it to the Lunacy Committee. A report of the investigation was sent to Governor Pattison, which strongly censured Dr. Gerhard's management. The trustees of the asylum, also, went over the charges and they in turn criticized the Lunacy Committee and maintained that Dr. Gerhard was unfairly treated and his management grossly misrepresented. Dr. Gerhard has resigned the Superintendency and will be superseded on November 1st by Dr. H. L. Orth, of Harrisburg, a member of the Board of Trustees. T. D.

The Pan-American Medical Congress.—Under the energetic management of the accomplished Secretary-General, Dr. Chas. A. L. Reed, of Cincinnati, the most satisfactory progress is being made toward the completion of the organization of this important American Medical Congress—the most important meeting of its kind that will have assembled on our soil during the century.

The friends of the Congress may well congratulate themselves and the coming Congress on the very judicious selection of the Secretary-General, as the result of his fidelity, industry and zeal in the work assigned him begin to appear. All interested in the success of the work must be pleased at the bright and brightening prospects of a most successful Congress and gratified that the very capable Secretary-General is displaying the energy and doing the work which is so essential to its success in so satisfactory a manner.

The following circular of information, issued in March, will serve to show what is being done and to enlighten all interested in the coming Congress as to its organization and progress up to the present date and the good work still goes vigorously on :

THE PAN-AMERICAN MEDICAL CONGRESS.

The Committee on Permanent Organization met at St. Louis, October 14th, 15th and 16th, 1891, and adopted a series of General Regulations for the permanent organization of the Pan-American Medical Congress, and a series of special regulations for the government of the first meeting, and recommended that the Incorporators adopt both series of regulations as the organic law of the Congress.

Pursuant to such Regulations the following general officers were elected, viz.: William Pepper, M. D., LL. D., Philadelphia, Pa., President; Abraham M. Owen, A. M., M. D., Evansville, Ind., Treasurer; Charles A. L. Reed, M. D., Cincinnati, Ohio, Secretary-General.

International Executive Committee.—**Argentine**, Dr. Pedro Lagleyze; **Bolivia**, Emilio de Tomassi; **Brazil**, Dr. Carlos Costa; **British North America**, Dr. James F. W. Ross; **British West Indies**, Dr. Jas. A. DeWolf; **Chili**, Dr. Moises Amaral; **Colombia**, P. M. Ibañez; **Costa Rica**, Dr. D. Nufiez; **Ecuador**, Dr. Ricardo Cucalon; **Guatemala**, Dr. José Monteris; **Hayti**, Dr. D. Lamothe; **Spanish Honduras**, Dr. George Bernhardt; **Mexico**, Dr. Thomas Noriága; **Nicaragua**, Dr. Juan I. Urtecho; **Peru**, Dr. José Cassamira Ulloa; **Salvador**, Dr. David J. Guzman; **Spanish West Indies**, Dr. Juan Santos Fernandez; **United States**, Dr. A. Vander Veer; **Uruguay**, Dr. Jacinto DeLeon; **Venezuela**, Dr. Elias Roderiguez.

The Auxiliary Committee nominated by the various members of the Committee on Permanent Organization, each for his own State and already commissioned by the Chairman, was confirmed.

The election of officers of sections was begun, but time would not permit of the completion of the list, which was referred to a special committee with power to act. It has been deemed inexpedient to publish the list until it is completed, which can hardly be accomplished before the meeting of the Committee on Permanent Organization, at Detroit, in June. But the organization of particular sections will be announced through the medical press as rapidly as officers are elected by the special committee.

In accordance with the wish of the Committee on Permanent Organization as expressed in Special Regulation, No. 4, Drs. I. N. Love, A. B. Richardson, L. S. McMurtry, R. B. Hall, T. V. Fitzpatrick and Charles A. L. Reed, met in Cincinnati and signed the legal form of application for Articles of Incorporation of the Pan-American Medical Congress, which Articles of Incorporation were duly issued by the Secretary of the State of Ohio, under date of March 15th, A. D., 1892.

At a meeting of the Incorporators, held March 16th, 1892, the Regulations, general and special, recommended by the Committee on Permanent Organization were formally adopted as the organic law of the Pan-American Medical Congress in accordance with the Laws of Ohio, and all elections had by the Committee on Permanent Organization, in accordance with such regulations were confirmed and made a part of the laws of the Congress.

Pursuant to the Laws of Ohio and the Regulations adopted as above and in accordance with nominations by the Committee on Permanent Organization, the Incorporators elected fifteen Trustees, as follows:

Dr. W. T. Briggs, Tenn.; Dr. Geo. F. Shrad, N. Y.; Dr. P. O. Hooper, Ark.; Dr. S. S. Adams, D. C.; Dr. H. O. Marcy, Mass.; Dr. J. F. Kennedy, Iowa; Dr. H. D. Holton, Vt.; Dr. L. S. McMurtry, Ky.; Dr. N. S. Davis, Ills.; Dr. Levi Cooper Lane, Cal.; Dr. I. N. Love, Mo.; Dr. Hunter McGuire, Va.; Dr. J. C. Culbertson, Ills.; Dr. A. Walter Suiter, N. Y.; Dr. C. H. Mastin, Ala.

Drs. L. S. McMurtry (Ky.), I. N. Love (Mo.) and W. W. Potter (N. Y.), were designated to act as members of the Executive Committee.

The organization of the Congress is complete in British North America, the British West Indies, the Spanish West Indies, Guatemala, Nicaragua, United States of Colombia, Brazil, Uruguay, Venezuela and the Argentine. It is confidently expected that the nominations from the remaining countries will be in by June.

It is expected to announce the completed organization of the Congress, its sections and auxiliary committees, domestic and foreign, by July 1, 1892.

On behalf of the Committee on Permanent Organization,

CHARLES A. L. REED, Chairman.

J. W. CARHART, Secretary.

The Secretaries of Neurological Section of The Pan-American Medical Congress, so far as appointed up to date, are:

Dr. N. G. Echeverria, Key West, Fla., Spanish-speaking Secretary for the Section. The other Foreign Secretaries, so far as appointed, are:

Argentine Republic—Dr. Dn. Melendez y Cabrea, Hospicio San Buenaventura, Buenos Ayres.

Brazil—Dr. Dn. Carlos Eires, Rio de Janeiro.

Colombia—Dr. Dn. Pablo Garcia Medina, Carrera 8, numero 277, Bogota.

Nicaragua—Dr. Dn. Juan I. Urtecho, Calle Real, Ciudad, Granada.

Sp. West Indies—Dr. Dn. Emiliano Nunez, Galiana 19, Habana.

Uruguay—Dr. Dn. Francisco Soca, Florida 90, Montevideo.

Guatemala—Dr. Dn. Jose Azurdia, Ciudad, de Guatemala.

Brit. North America—Dr. Stephen Lett, Guelph, Ontario.

CHAS. A. L. REED,
Sec'y-Gen'l.

The Mississippi Valley Medical Association will hold its 18th Annual Session at Cincinnati, October 12th, 13th and 14th, 1892. Dr. C. A. L. Reed, of Cincinnati, President; Dr. E. S. McKee, Cincinnati, Secretary; Dr. C. S. Bond, Richmond, Ind., 1st Vice-President; Dr. J. H. Stucky, Louisville, 2d Vice-President; Dr. Joseph Ransohoff, Cincinnati, Chairman Committee of Arrangements.

New Buildings for Jefferson Medical College of Philadelphia.—The Board of Trustees and the Faculty of the Jefferson Medical College have just

of two large lots on Broad street,
of about 300 feet and a depth of
they will proceed to erect at once
ture hall and laboratory building.
e building is \$500,000. The hos-
occupancy in the session of

ON has resigned his position
ors of the *Lancet-Clinic*, having
ident of the Columbus, Ohio,
the Asylum but bad for the

ual Meeting of the Asso-
ndents of American Institu-
held at the Arlington House,
D. C., commencing at 10 A.

tly requested to be present
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e meeting.

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ited to attend the meet-
JOHN CURWEN, M. D.,
Secretary.

*will please take notice that we do
scribers, but only on new ones*

r subscribers would deal directly

CORRESPONDENCE.

THE AMERICAN MEDICAL ASSOCIATION, at its last meeting appointed a committee to present a memorial to Congress, petitioning for a physician in the Cabinet.

The following are the names of the Committee :

C. G. Comegys, Chairman, Ohio ; N. S. Davis, Illinois ; T. G. Richardson, Louisiana ; J. C. Culbertson, Ohio ; J. F. Hibberd, Indiana ; W. B. Atkinson, Pennsylvania ; Charles A. Lindsley, Connecticut ; C. H. Hughes, Missouri ; W. T. Briggs, Tennessee ; H. D. Didama, New York ; Thos. B. Evans, Maryland ; Alex. J. Stone, Minnesota ; J. P. Logan, Georgia ; W. Ayer, California ; Chas. Denison, Colorado ; W. I. Schenck, Kansas ; P. O. Hooper, Arkansas ; H. J. Swearingen, Texas ; Wirt Johnston, Mississippi ; Thos. F. Wood, North Carolina ; J. N. McCormack, Kentucky ; J. I. Reeve, Wisconsin ; H. O. Walker, Michigan ; Landon B. Edwards, Virginia ; Albert N. Blodgett, Massachusetts ; A. D. Beven, Oregon ; E. D. Smith, Washington ; J. B. Atchison, Montana ; C. H. Mastin, Alabama ; R. A. Kinlock, South Carolina.

In furtherance of this subject we wrote to the Honorable, the Secretary of State, as follows, and below we give his reply :

Office of

C. H. HUGHES, M. D.,

500 N. Jefferson Ave.

ST. LOUIS, Feb. 3d, 1892.

HON. JOHN W. NOBLE,

Secretary of State.

Dear Sir:—You will find my name appended, though the initials C. H. are misprinted as C. A., to the Memorial to Congress, asking for a Secretary of Public Health.

I have caused to be mailed to you my journal, THE ALIENIST AND NEUROLOGIST, in which editorial reference is made to the subject, and a copy of my recent Presidential Address before the Mississippi Valley Medical Association, in which reference is also made to the same subject and reasons given for the reasonableness of this demand of the American Medical Association.

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The reasonableness of such a memorial, however, in my judgment, speaks for itself, and the necessity for a National Public Health Department and Health Officer in the Cabinet seems so apparent that argument for the creation of such a department of the general government appears superfluous.

The health of the people is part of the guarantee of "life, liberty and the pursuit of happiness" in the national and every state bill of rights. This guarantee to the people cannot be fully carried out without a National Health Board and a Health Officer in the cabinet to look after the sanitary welfare of the people. It should be a part of the public defense, not less than the War Department, and like the Departments of the Interior, of Justice and of State. It would seem to be necessary to the public welfare, for when the health of the people is menaced or attacked, what function of Government is more important than their sanitary protection? Public sanitation would seem as essential as armies to the security of a free people.

A wise physician skilled our wounds to heal
Is more than armies to the public weal.

Yours very truly,

C. H. HUGHES, M. D.

DEP'T OF THE INTERIOR.

WASHINGTON, Feb. 5th, 1892.

DR. C. H. HUGHES,
500 N. Jefferson Avenue,
St. Louis, Missouri.

Dear Sir:—Yours of the 3d instant has been received, in regard to the movement on hand to have the Governmental office established of Secretary of Public Health. I beg leave to quote to you from a letter recently sent by me to Dr. S. Loving, of Columbus, Ohio, in which I stated:

"I think well of the purpose of your Association to establish a department of public health. The bureau of agriculture has grown to be a department whose Secretary is a cabinet officer, and the last President's message declares it to have proved the necessity for its existence.

"The bureau of education, under Dr. Harris, is rising in public esteem constantly. * * *

"That the public health rivals either of these, or others that could be named, in importance to the public welfare and the people's safety no intelligent person can dispute.

"Individual effort has done wonders in detecting the sources of danger to communities, and the discussion of such discoveries has interested every household. But liberal as the medical profession is and, has, in our country, proved itself at all times to be, it is not fair nor politic for us to leave it unsupported and nationally unrecognized. The international communication of intelligence that would follow the organization of a bureau of public health, would not only preserve our own inhabitants from many physical ills, but would greatly serve to strengthen the sympathy between all civilized peoples who would correspond and co-operate with us. They would feel the same beneficent influence of the system we should realize.

"The subject is worthy of statesmanlike treatment and should not longer be subordinate to our other material interests. What will not a nation as well as a man give in exchange for life!" * * *

These are my views and I take pleasure in transmitting them to you. Of whatever service I can be in support of such proposition I shall gladly render.

Yours truly,

JOHN W. NOBLE.

Letters have been written also to our senators and members of Congress. We think if each reader of the ALIENIST AND NEUROLOGIST would do likewise as to the representatives from the different States this reform and advance in governmental policy so desirable would be accomplished.

IN MEMORIAM.

DR. JOSEPH DRAPER.—Dr. Joseph Draper, the Superintendent of the Vermont Asylum for the Insane, who died March 17th, was a native of Warwick, Mass. His illness, which was *la grippe*, ending in pneumonia and vagus paralysis.

Dr. Draper was born February 16th, 1834. He came of New England ancestry, his grandfather, Joseph Draper, for whom he was named, having been a native of Dover, Mass., from which place he moved to Warwick in 1806, with his wife, Anna Field Draper, who was a native of Mansfield, Mass., and their three children, of whom Ira, the father of Dr. Draper, was the youngest, being then two years old. Dr. Draper's father grew up as a farmer among the Warwick hills, and Dr. Draper's early life was the usual one of a farmer's boy. He was educated in the common schools, supplemented by terms of study at the academies in West Brattleboro and Deerfield, Mass. At 22 years of age he studied with Dr. Jas. Deane, the then eminent physician of Greenfield, Mass., attended lectures in New York and a course at the Jefferson Medical College, of Philadelphia, where he was graduated in 1858. His first settlement for practice was in Northfield, then at Greenfield.

In October, 1859, Dr. Draper went to Brattleboro as Dr. Rockwell's assistant and remained there until January, 1865.

A short time after leaving the asylum he was assistant surgeon in the military hospital then in existence at Brattleboro. From here he went to Worcester as assistant physician in the insane asylum at that place, and afterward was the acting superintendent of that asylum for one year. In 1870, he went to the New Jersey Insane Asylum as assistant physician, remaining there until early in 1873, when he was called to Brattleboro to take the superintendency of the Vermont Asylum, entering upon his duties on his birthday, February 16th.

Since that time the history of the asylum has been the history of Dr. Draper's life, and the steady progress and development of the institution is the record of his

professional zeal and of his business ability. At the time he took charge of the asylum the erection of what are now the extreme north and south wings and the introduction of steam heat had been decided upon, and these were carried to completion during that and the following year. These improvements were followed in due course by the erection of the new gymnasium and boiler-house, the carpenter shop, the opening and development of the beautiful hill-side park, the Summer Retreat and The Cottage, the complete reconstruction of the sewerage system, work year by year on the stone tower, so fittingly alluded to in Rev. Mr. Phalen's address, and lastly, the new farm buildings, which are among the most perfect of their kind in New England. Meantime, there has been a steady succession of minor improvements, hardly visible to the public eye, but none the less important for the comfort and well-being of the asylum inmates, while the magnificent asylum estate has been greatly enlarged, and its improvement and adornment in substantial, enduring ways, has been as constant as the succession of the seasons. Hostile criticism, which at the outset was rife, has been completely silenced, and to-day there is throughout Vermont a cordial and spontaneous recognition of the place which this institution occupies among the foremost of its kind in this country.

Early in the summer of 1881 Dr. Draper was given leave of absence for three months by the trustees, that he and Mrs. Draper might make a long-contemplated visit abroad. The opportunity for observation and study in his specialty was improved to the utmost, and Dr. Draper came home filled with more zeal and enthusiasm than ever for the development and increased usefulness of the asylum. Believing always in every possible outdoor help and diversion as a main curative agency for the patients in his charge, almost his first act on returning home was to bring before the trustees a proposition for the establishment of a retreat, separate from the main institution, such as he had found widely used by the best institutions in England and Scotland, where patients who were in condition to be benefited by the change, might find, in summer, relief from the home asylum life, just as well

Retreat for a short time at the close of that season. The advance step thus taken was a very important one, and in this respect the Vermont asylum led every institution for the insane in the United states. So satisfactory did its operation prove that five or six years later, the estate, now known as The Cottage was bought and fitted up for a similar retreat for the male patients, the Summer Retreat having necessarily been used for women alone.

He was an active member of the state and county medical societies, of the Association of Medical Superintendents of American Institutions for the Insane, of the New England Psychological Society, of which he was the president; of the Massachusetts Medical Society, of the Medico-Legal Society, and of other similar associations. Among American medical superintendents he stood in the foremost rank, and among them all there has not been a man more respected, or whose opinion carried greater weight. His expert opinion was widely sought for in courts of law and in complicated and disputed cases, such as arise from time to time, that of Edward M. Field, of New York, being the most recent instance.

Dr. Draper was a facile writer. His principal papers are: "Sketch of Dr. James Deane," 1858; "Sketch of Dr. W. H. Rockwell," 1858; "Sketch of Dr. C. H. Tenney," 1874; "The Pathology of Insanity," 1875; "The Pathogenesis of Insanity," 1877; "Hysteria in Insanity," 1879; "Responsibility of the Insane in Asylums," 1879; "Neurasthenia of the Ganglionic Nervous Centers," 1881; "Insanity in Great Britain and upon the Continent of Europe," 1882; "The Responsibility of the Insane Outside of Asylums," 1883; "Sketch of Vermont Asylum in the History of Brattleboro," 1880; "Insanity in Vermont," 1835-1885, 1885; "Obituary of Dr. Sumner Putnam," 1888; "The Oath of Hippocrates," 1889; "Nervous Prostration," 1890; "Subjective Delusions," 1890.

Dr. Draper was a lecturer of no mean ability and an all-round student of scientific and other literature. "The Drift Deposits of Civilization," given by him in December, 1879, as the opening lecture in the successful citizens' course of that season, was one of remarkable insight and intellectual force. Three years later he gave an address in a similar course on "The Influence of Mental Ima-

"Ladies' night," on "Cæsar's Image and Superscription," this being the pleasant foil for his real subject, which was heredity. These papers and addresses show how much of literary activity Dr. Draper contrived to interperse with the duties of his exacting professional routine.

Dr. Draper was by faith a Unitarian, but was broadly tolerant of the convictions of others.

"When a good man dies the people mourn," and the community in which Dr. Draper so long lived and so faithfully labored is in the depth of a profound sorrow. His associates of the Association of Superintendents will sadly miss his genial presence when they next assemble, and his colleagues, medical and social, all mourn his loss as the departure of an upright man, a good physician and a sincere friend. To his family human condolence is vain. Their torn hearts know their own bitterness, and it would almost be a solemn mockery for us to tender our sympathy in hope of assuaging their great grief. In the presence of this overmastering sorrow we can only offer a friend's commendation to the tender mercies of Him who "healeth the wounded in spirit and the broken-hearted and bindeth up their wounds."

JAMES ROSS, M. D., LL. D., Fellow of the Royal College of Physicians of London, Senior Assistant Physician to the Manchester Infirmary and Professor of Medicine, Victoria University, Manchester, England. The death of this distinguished physician is announced to have taken place at Manchester, February 25th, at the age of fifty-five years.

Dr. Ross was best known as the author of one of the best-known and most popular handbooks of the nervous system extant—a treatise that filled a place in neurology not filled by any other text-book. It is not so much an exhaustive treatise on classical nervous diseases as on diseased conditions of individual nerves and their sympathetic expressions.

REVIEWS and NOTES of CURRENT LITERATURE

BACTERIOLOGICAL DIAGNOSIS; Tabular Aids for Use in Practical Work.
By James Eisenberg, Ph. D., M. D. Translated and augmented,
with the permission of the author, from the second German Edition,
by Norval H. Pierce, M. D. F. A. Davis Co., Publishers, 1892.

At last a book which has for years been an indispensable aid to those engaged in bacteriological work, has been placed upon the American book market. In criticising a book which has been translated from a foreign language, two points must be considered, viz., the original work and the translation.

The original German work was at first published as a small volume in the early part of the year 1886. Having given proof of its usefulness in a short period of time, a second and enlarged edition appeared in the beginning of the year 1888. During the summer of 1891 the third edition was published, which in correspondence with the rapid progress of the science of bacteriology has been greatly augmented by its author.

The reviewer, therefore, is greatly surprised that the American physician is presented in the year 1892 with the translation of the second edition, published four years ago, instead of the third, published last year. It is unnecessary to discuss, in a medical journal, the significance of a lapse of four years in the progress of the medical science in general and more particularly in the progress of bacteriology. It, indeed, makes a queer impression to read on the first pages of this translation successively the year 1888 (Preface of the second original edition), 1890 (Preface of the translator, Dr. N. H. Pierce) and 1892 (year of publication of translation). This circumstance finds but a slight excuse in the fact that Dr. Pierce has benefited his translation by adding the few augmentations of the first Italian translation by Dr. Titto Ferretti. From this point of view the medical profession would be justified in disapproving such a publication.

The great value of the original work is undoubted. The deficiencies found in it must be attributed to the want of a principle for the classification of the lowest forms of vegetable organisms. Yet Eisenberg's work is not, like so many recent books on bacteriology, a mere compilation, but it has been at various places augmented by the author's own

groups. To the first and by far the largest group belong those pathogenic bacteria which have been already cultivated outside of the animal body. The second group contains those which have not as yet been cultivated outside of the animal organism. There is a temptation to consider such a division of pathogenic bacteria a "*contradictio in adjecto*," since in accordance with Koch's postulates a microbe is classified as a pathogenic bacterium only when the inoculation of its pure cultivation, carried on through successive generations into proper species of animals, is always followed by the production of one and the same disease.

Only three species are enumerated in this group, the *Spirochæte Obermeieri*, Lustgarten's *Syphilis Bacillus* and the *Plasmodium Malariae*. As to the last of these there is nowadays no doubt that this microbe is to be considered a protozoon—not a bacterium. Already in this second edition we find a short mention of the doubtfulness of classifying the *plasmodium malariae* as a bacterium. With this exception the rest of the table devoted to this microbe is very unsatisfactory for a publication of the year 1892. The third section comprises, under the head "*Fungi*," mould and yeast fungi and the actinomycetes, whose position in the botanical system is still doubtful. Here the critic chiefly objects to the head "*Fungi*," for he knows of no terminology which permits such a use of the word fungus in opposition to bacteria. The generally accepted teaching is that the term fungus comprises the fission, mould-and-yeast fungi or the schizomycetes (bacteria), hyphomycetes and saccharomycetes.

The Appendix contains, in a concise description, the methods of preparing the chief nutrient soils and the formulas and application of the most reliable staining fluids.

Thus the reader will be convinced that the contents of this volume correspond just to the needs in a bacteriological laboratory. The usefulness of the American edition is interfered with by the above mentioned deplorable circumstance of its being a book almost four years old.

The translation was a relatively easy task and yet it seems to the reviewer as if it was done not with sufficient care. I hardly think that even the title gives the exact signification of the German one. The original edition is entitled "*Bacteriologische Diagnostik*," which, as far as the best medical dictionaries will prove, is best given by "*bacteriological diagnostics*." Page 13 the German term "*litteratur*" is used in the translation without any change in spelling. At various places the German word "*section*," signifying autopsy, is directly used in the German sense of the word. The repeated use of the term "*bacteries*" (*sic!*) is inexplicable. In the Contents, as well as in the Index and the Tables, the reviewer noticed "*bacillus erythrosporus*" instead of *b. erythrosporus*, "*actinomycoses*" instead of actinomycetes, "*spirochæte Obermaieri*" instead of *s. Obermeieri* and so on, so that these incorrectnesses cannot be regarded as typographical errors. Of these a very large number can be found. In the Appendix there is a misprint in

the formula of Gram's iodine, iodide of kalium (sic!) solution in which the quantity of iodide of potassium is ten times its real amount.

Taken as a whole Eisenberg's work was worth while of being translated. The publishers as well as Dr. Pierce deserve credit for having undertaken that task. But the objections which the careful reader has to make are such as to justify the desire that the book will receive in a short time a second *enriched and corrected* edition.

HUGO SUMMA, M. D.

THE PRINCIPLES AND PRACTICE OF MEDICINE; Designed for the Use of Practitioners and Students of Medicine. By Wm. Osler, M. D., Fellow of the Royal College of Physicians, London; Professor of Medicine in John's Hopkins University and Physician-in-Chief to the Johns Hopkins Hospital, Baltimore; formerly Professor of the Institutes of Medicine, McGill University, Montreal; and Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia. Sold only by subscription. Prices: Cloth, \$5.50; sheep, \$6.50; half morocco, \$7.00. D. Appleton & Co., Publishers, 1, 3 and 5 Bond Street, New York.

This is one of the latest and best, most modern of text-books of medical practice. It is written from the stand-point of practical experience. Its author has kept abreast of the advances in medicine. The book is therefore a practical exponent of modern methods and modern medicine. The author, Dr. Osler, is well known as a teacher, clinician and writer. His connection with the leading hospitals and medical colleges of both continents has given him an international reputation and endowed him with an especial fitness for the task he has assumed in this work.

In this work are discussed Specific Infectious Diseases, Infectious Diseases of Doubtful Nature, Constitutional Diseases, Diseases of the Digestive System, Diseases of the Intestines, Diseases of the Liver, Diseases of the Pancreas, Diseases of the Peritonæum, Diseases of the Respiratory System, Diseases of the Larynx, Diseases of the Bronchi, Diseases of the Lungs, Diseases of the Pleura, Diseases of the Mediastinum, Diseases of the Circulatory System, Diseases of the Heart, Diseases of the Arteries, Diseases of the Blood and Ductless Glands, Diseases of the Kidneys, Diseases of the Nervous System, the first subdivision being on Diseases of the Nerves, including neuritis, neuromata, diseases of the cranial nerves and diseases of the spinal nerves. The second division is on Diseases of the Spinal Cord, embracing affections of the meninges, affections of the blood-vessels and acute and chronic affections of the spinal cord. The third division takes up Diseases of the Brain, including affections of the meninges, affections of the blood-vessels, affections of the substance, hemiplegia and diplegia in children, sclerosis of the brain, chronic diffuse meningo-encephalitis, tumors of the brain and chronic hydrocephalus. The fourth division is on General and Functional Diseases, and deals with acute delirium, paralysis agitans, acute chorea; other affections described as chorea, infantile convulsions, epilepsy, migraine, neuralgia, professional spasms, occupation

neuroses, tetany, hysteria, neurasthenia, the traumatic neuroses and other forms of functional paralysis. The fifth division includes Raynaud's disease, angio-neurotic oedema, facial hemi-atrophy, acromegalia and scleroderma. The ninth section is on Diseases of the Muscles, including myositis, idiopathic muscular atrophy, Thomsen's disease and paramyoclonus multiplex. The tenth section treats of Intoxicants, Sunstroke, Obesity, and embraces alcoholism, morphine habit, lead poisoning, arsenical poisoning, ptomaine poisoning, grain poisoning, sunstroke and obesity. The eleventh section takes up the Diseases Due to Animal Parasites, and embraces psorospermiasis, distomiasis, diseases caused by nematodes, diseases caused by cestodes, parasitica arachnida, parasitic insects and pseudo-parasites.

The author has devoted to each class space commensurate to its importance to the general practitioner and the state of existing knowledge. Tuberculosis is treated with especial thoroughness, seventy-three pages being devoted to the subject, all of the forms in which the disease manifests itself being considered in the light of modern knowledge. The bacillus, which, in its various forms, plays such an important part in many diseases, is given due prominence here, as it is throughout the work. The diseases of the nervous system are not, however, treated with that completeness demanded by the neurologist, but this could not have been done without unduly extending the book; and the condensation and abbreviation displayed in regard to these diseases rather commend than detract from the work as a valuable text-book for practitioners and students.

On the whole we like the arrangement and the matter of the book and can confidently commend it as a bedside guide worthy of a place beside that of Stimpell, Flint and other modern clinical teachers of general medicine. Indeed from our knowledge of the author's merits as a writer of many valuable monographs and our personal acquaintance with his qualifications as a clinical teacher of medicine and as a medical scientist, we were prepared to see a good book like this one issue from his masterly pen. We cordially endorse the book and the author.

A MANUAL OF DISEASES OF THE NERVOUS SYSTEM. By W. R. Gowers, M. D., F. R. C. P., F. R. S., Consulting Physician to University College Hospital; Physician to the National Hospital for the Paralyzed and Epileptic, of London. Second edition. Revised and enlarged. Vol. I.; Disease of the Nerves and Spinal Cord, with 180 Illustrations. Philadelphia: P. Blakiston, Son & Co., 1892. Price \$3.50.

Our readers will be glad to learn the first volume of the revised edition of this standard work has appeared and that the second is soon to follow. The volume before us has been generally revised and brought up to date. New and amplified articles on multiple neuritis, beri-beri, brachial neuritis, senile paraplegia, Morvan's disease and the peroneal type of muscular atrophy, are among the recent additions to this work. The critical reader will note many other valuable additions and emendations which our space will not permit of mention.

Our exalted estimate of the author and appreciation of his work has been so fully expressed concerning previous editions that but little further need here be said concerning the present revised and improved edition. Besides, readers of the *ALIENIST AND NEUROLOGIST* are too familiar with Dr. Gowers' deservedly high standing as a neurological clinician of transcendent merit to require for his work any encomium from us; but to such as may wish our opinion we can truly say the book, besides possessing the merit of good text, ample illustration and moderate size, gives a full and clear account of the present advanced neurology on every topic discussed in the volume before us. If the volume to follow should prove as complete (as we have every reason to believe it will) there will be no better treatise on neurology in the English language. The book is not so concise as we should have been pleased to have seen it, but it has the merit of thoroughly covering the ground the author has attempted to go over. The chapter on Multiple Neuritis is the most complete discussion of this subject extant in the literature.

A MANUAL OF AUTOPSIES; Designed for the Use of Hospitals for the Insane and Other Public Institutions. By I. W. Blackburn, M. D., Pathologist to the Government Hospital for the Insane, Washington, D. C. Illustrated. Philadelphia: P. Blakiston, Son & Co., 1892.

We have this work before us with the compliments of the Association of Superintendents of America and the publishers.

This is a manual for autopsic examination for necroscopic and morbid specimens and morbid growths, adapted for the use of amateurs as well as *savants*. An especially interesting and instructive feature of the book is the method in which he sections the brain.

The work before us gives an outline view of the brain as a whole, outlined into six sections; also separate transverse sections at the points outlined on the chart. We regard this an exceptionally valuable feature of the book for students of the brain when they come to verify these illustrations by cerebral sections.

Dr. Blackburn's well-known ability and carefulness in this work are a sufficient commendation of the book, aside from anything we might say, and we are glad to see a book of this kind emanate from so competent a source and especially from an American Hospital for the Insane. It will prove invaluable to hospital superintendents who are engaged in autopsic investigation.

PROCEEDINGS OF THE FOURTH ANNUAL MEETING OF THE NATIONAL ASSOCIATION OF RAILWAY SURGEONS, held at Buffalo, N. Y., April 30th and May 1st, 1891, with a Historical Sketch of the Association, List of Members, etc., and Illustrated with Portraits of the Past Presidents and Present Officers of the Association.

This is a well-arranged and neatly gotten up volume and contains many valuable contributions to Railway Surgery.

The Historical Sketch of the Association, which includes an abstract of the Proceedings of the preceding meetings, by Dr. R. Harvey Reed, of Mansfield, Ohio, is an interesting addition to the work which will be

appreciated by its readers. From this we learn of the phenomenal growth of this Association—a growth perhaps unprecedented in the history of medical societies; so that its present paid-up membership is over a thousand.

In the publisher's note is a highly complimentary reference to the editorial services of Dr. R. Harvey Reed in connection with the Journal and the Transactions.

FESTSKRIFT FRÅN PATHOLOGISK-ANATOMISKA INSTITUTET.—On the occasion of the 250th anniversary of the foundation of the University of Helsingfors, Finland, a number of the professors and pupils of this seat of learning have contributed interesting articles on subjects that form burning questions in the Medicine of our day. Of special interest to Neurologists are the following:

"Contribution to the Knowledge of Facial Hemiatrophy and of the Origin of the Trigemini Nerves," by Professor E. A. Homen.—After Mendel's case it is the first which is accompanied by a report of an autopsy. Besides an atrophy of the left half of the face and the anterior portion of the corresponding half of the tongue, a complete anæsthesia of the whole trigeminal region of the left side, atrophy and paralysis of the muscles of the same side existed; the muscles of the left eye were also paralyzed. There was a little stiffness or slowness and difficulty of movement in the rest of the muscles of the left side of the face. Besides an ulceration of the left cornea in the inner and lower portion was found. The cause of the trouble was an endothelioma of the dura mater at the base of the skull in the inner part of the left median fossa. The tumor had compressed and flattened the Gasserian ganglion and the trigeminus and its ramifications, penetrating partly into its sheath and had touched the motor nerves leading to the orbit. Microscopically degeneration in the affected nerves was established. The ganglion cells, called the nucleus, of the trigeminus affected were slightly diminished in size. The principal alterations were found in the ascending root of the trigeminus. The author calls attention to the difference between this case and the typical form of facial hemiatrophy. It is, so to say, more acute but presents at its last period the principal characteristics.

Another article of interest is contributed by H. Holsti, entitled, "A Case of Acromegaly, with Autopsy." After a febrile disease which had lasted several weeks and occurred about two years before the first symptoms manifested themselves, it was noticed by his surroundings that his hands and feet increased in size to such an extent that his gloves and boots became too small. His head also increased in volume so that he

weighing 1,840 grammes; the pituitary gland was enlarged and soft, the thyroid gland hypertrophied, the heart enlarged, the mitral valve very thick and contracted. The spleen was considerably enlarged in volume, as also the liver and the kidneys. At the site of the thymus gland a peculiar reddish yellow mass was found, probably remnants of the gland. Very considerable changes were found in the bones; those of the toes were especially examined; they presented an inequality of surface, due to a number of small tuberosities.

The author comments on the eight other cases of acromegaly on which *post-mortems* have been made. In some of these changes in several organs have been found, namely, in the pituitary gland, the thyroid gland and the thymus gland, whereas, in other cases, the autopsy yielded a negative result. According to the author, the difference in the results of the different autopsies has its cause in the circumstance that the name of acromegaly has been applied to a number of diseases which, in spite of their external resemblance, can be differentiated as regards their nature and character.

Since the thyroid gland has been found changed in nearly all the cases of acromegaly, the author believes that there is a connection between the changes of the thyroid gland and those that characterize acromegaly. In regard to the growth of the bones we do not know yet whether the cause has to be sought for in the changes of the thyroid or whether it is due to the increase of the pituitary gland or to the persistence of the thymus or to some other cause as yet unknown. The difficulty of determining these points is so great because we know very little of the physiological importance of these organs. Etiologically, it is of interest that the patient had suffered from a neurosis (probably vasomotorrophic). This affection consisted in a sudden swelling of the joints of the hands. The swelling always took place without any known cause and was so intense that the patient had to take off his rings in haste, without which his fingers would have become strangled. The swelling was most pronounced in those places where the enlargement of the bones took place later on.

A third article of interest to the neurologists is entitled, "A Peculiar Family Disease Under the Form of a Progressive Dementia, in Connection with Extensive Vascular Changes," by E. A. Homen. Three members of the same family were attacked with a disease of a typical course, presenting the clinical picture of a progressive dementia, with a peculiar anatomical finding *post-mortem*, which differs from all those known in medical literature. The disease commenced in all of the three patients, one girl and two boys, sister and brothers, with a gradual decrease of intelligence and weakness of memory, together with vertigo, heaviness and pain in the head, general lassitude and decrease in appetite. Later there was uncertainty of gait, heaviness and indistinctness of speech, contractures, tremor and slight spasms. The principal pathological change found in the brain was a sclerosis of the vessels with changes of the brain substance depending thereon.—L. BREMER, M. D.

THE POISON OF THE TOAD.—The *Boston Medical and Surgical Journal* thus presents the subject: "In two letters which appeared in the *Lancet* of August 29, a large amount of evidence is brought forward to show that Shakespeare's description of a toad 'sweating venom,' instead of being an expression of a mistaken popular idea, is really a truthful description of fact. The toad secretes a venom of a tolerably powerful character; and instead of this secretion taking place, as in case of snakes, entirely through glands in the mouth, it is secreted by the skin. In his interesting letter Dr. Leonard Guthrie mentions that the secretion also occurs in the toad through the parotid glands and that the venom is a thick, milky fluid, like the juice of dandelion stalks in taste and appearance. When inoculated subcutaneously it kills small birds in six minutes and dogs and guinea-pigs in half an hour to an hour and a-half; the symptoms in birds being loss of co-ordination followed by death, in guinea-pigs convulsions and in dogs depression, vomiting and intoxication. Dr. Guthrie kept a small toad in a cage with some common lizards, and one day a lizard having bitten the toad, immediately afterwards rushed wildly round the cage, burrowing its head in the sand became convulsed and died in less than two minutes. His dog having seized a toad, was attacked by instantaneous and profuse salivation, violent vomiting and collapse. He also noticed that the venom has a most powerful local action on the skin, so that after carrying a toad in his hand he got numbness and tingling in it, with slight swelling and dryness of the skin lasting for several hours. In another letter Dr. Lauder Brunton mentions that the active principle of the toad venom is probably of an alkaloidal nature. It has been called phrynin or bufidin. It appears to be a cardiac poison, acting in somewhat the same way as digitalis; but its effects seem to resemble still more those of erythrophlœum, for the uncertain gait, convulsions and paralysis which it produces are precisely the symptoms produced by the erythrophlœum when used as an ordeal poison. Dr. Guthrie's observation of the local action of the toad's venom in causing numbness and tingling is interesting, as showing that in its local anæsthetic action phrynin resembles erythrophlœum and digitalis, adds evidence to the generalization made by Dr. Lauder Brunton that all the drugs belonging to the group of so-called cardiac poisons may have a local anæsthetic action."

THE MITCHELL-WARD TRAGEDY.—H., in the *Medical Fortnightly*, thus discusses two timely topics: "Those fortunate people who had read Adolphe Belot's latest work, 'Mademoiselle, Giraud—My Wife,' and were erudite enough to read it understandingly, were prepared for a tragedy such as has been so recently enacted in Memphis, Tenn.

"The killing of one young lady of wealth, education and social standing, by her friend, another young woman of equal accomplishments, was enough to startle society throughout the country. But to add to the horror of the crime, comes the knowledge that the murder was the fruition of perverted sexual love, so monstrous in its viciousness that

even physicians dread to speak of it. So those who censured Belot for writing a novel resting on such delicate ground, will be compelled to hear a worse tale told, not in the chaste style of that accomplished writer, but in the searching, unflinching examination of a court of justice. That the poor girl now held for murder, was the victim of neuro-psychical degeneration, resulting in that condition so ably described by Westphal as *conträre sexual empfindung*, there can be no doubt.

"The murderess has the physical and psychical attributes so generally observed in those belonging to the class of sexual perverts. She evinced that pronounced fondness for those of her own sex and an unusual aversion for male friends. She possessed an ungovernable temper and imperious disposition, a fondness for masculine attire and for masculine sports. An excellent rider, a good shot, bold and reckless to an unusual degree, devoid of those gentler traits which go to mark the differences between man and woman, she is a fit subject for psychological study. Her fondness for her female lover began at a female school, as did that of Paule and Bertha in the novel referred to and, as was theirs, continued after leaving school.

"She petted and caressed her friend whenever opportunity offered; called her 'sweetheart' and lavished all sorts of loving attention upon her. Whenever it was possible they visited and roomed together and seemed thoroughly happy in each other's company. By the removal of the girl, now dead, to an adjacent city, thus enforcing a separation, the accused was uncontrollable in her grief and became melancholy and depressed. The couple kept up a correspondence and embraced every opportunity to meet, until finally the mental condition of the murderess attracted the attention of the relatives of her friend and they were forbidden to meet.

"This led to the murder on the Levee, the blighting of two lives and the wrecking of two homes. After the crime the girl-murderess gave as a reason that she killed her friend because she loved her and could not live without her; that they were engaged to be married, but her wife-to-be had broken the engagement, etc., etc.

"The whole history of the unfortunate girl, prior to the commission of the crime, every act and word spoken by her since, are characteristic of the sexual pervert. Such cases are not rare by any means; literature is full of them. Westphal, Kraft-Ebing, Kiernan, Clevenger, Hughes and Lydston have studied many such cases and done not a little to save these unfortunates from the criminal classes and place them where they belong. To that class of moralists and philosophers who deny or ignore the intellectual element in sexual congress, is due the relegation of sexual perverts to the criminal classes, while to those who understand the psychological element of sexual appetite, is due whatever has been done towards rehabilitating those guilty of crime through the fault of neuro-psychical deteriorations. As Kiernan very aptly puts it, 'It seems certain that a femininely functioning brain can occupy a male body and *vice versa*.' In the case under consideration the murderess represented the anomaly

of a masculinely functioning brain, occupying a female body. The girl was a female physically but a male psychically and was unable to control herself as a normal female would have done, but gave way to that sexual thirst which after all is but the result of the evolution of the protoplasmic hunger of the amoeba. Without a more thorough insight into the history of the girl so soon to be tried for murder it would be impossible to do more than conjecture as to the class of sexual perverts to which she belongs. From the present facts, obtained through the medium of the press, it is not at all improbable that the accused belongs to the second classification made by Lydston. This would place her, most probably, in subdivision (d), as a case of sexual perversion from over-stimulation of the receptive sexual centers, due to masturbation. This masturbation probably began alone, was taught to her school-girl friend, mutual masturbation followed, then the well-developed perverted sexual love with all its disgusting details, was the almost inevitable result. From this came the desire to consummate the unnatural love by marriage, the enforced separation, the breaking up of a habit which had made sexual monsters of the two maidens—then the climax—murder. The subject is full of interest to the physician and is of great importance to the public, but the pages of the *Medical Fortnightly*, were they all given to this one theme, would prove inadequate for a proper presentation of the literature of sexual perversion.

“Those who wish to investigate the subject thoroughly are referred to the exhaustive treatises of the gentlemen mentioned above, from which, whatever of value this article contains, has been drawn.

“To those non-medical readers who may chance upon this article, the advice is given, read the novel referred to and heed the admonition given in Chapter XV., in which Paule says, ‘It is the boarding-school that has been my ruin; it is that life in common with companions of my age. Tell mothers to keep their children near them and not place them in the apprenticeship of vice.’ ”

THE MEDITERRANEAN SHORES OF AMERICA; Southern California, its Climatology, etc. By P. C. Remond, M. D., Philadelphia and London.

This is an interesting book by one familiar by residence and education for the task of description and sanitary estimate of the climatology of Southern California. Having been on the ground oneself, we can concur in the main with the author's opinions and descriptions of this phenomenal country. The following concluding page will interest our medical readers:

The author says there exists a remarkable exemption from pneumonia in cases of chest wounds and that this pulmonary complication is also absent as a sequela to any severe or wasting disease; or as an intercurrent complication. The late wide-spread epidemic of the *grippe* has fully exemplified the immunity enjoyed by the section in the above regard; for, whilst in the East and West the death-rates from pneumonia and other pulmonary diseases greatly increased and many were started on the

fornia can hardly be said to have suffered from the *grippe* beyond its mere immediate fever and inconveniences—a result that, when it is taken into consideration that a large portion of the population is made up of confirmed, improving and cured invalids—a class who elsewhere could no more resist the deadly influence of the *grippe* than salt can withstand the deliquescent effects of water—is, to say the least, something remarkable. In some cases, much more broken down than the general average, victims of long-existing interstitial nephritis, or of a rheumatic or gouty kidney, the recovery has, of necessity, not been as rapid or as perfect; but, take it on the whole, what is known as the *grippe*-lung or the *grippe*-kidney can hardly be said to have been left behind as a *souvenir* of the visit of the epidemic. The absence of pneumonia during the *grippe* epidemic is the best evidence that it is not fostered by the climate.

In discussing pneumonia in its relation to influenza, the author does not appear to have made himself familiar with the relationship of vagus paralysis to the pulmonary symptoms or to have deduced the real conclusion justified by the facts that the absence of pneumonia during the *grippe* epidemic is not only evidence of the salubrity of the climate, but of the less strain the climate of Southern California puts upon the nervous system than other latitudes of severer and more variable temperature.

NEW MEDICAL JOURNALS.—*The Hot Springs Medical Journal* is a new periodical, edited by Drs. J. M. Keller, S. W. Franklin, Thos. E. Holland and J. C. Minor, and published at Hot Springs, Arkansas. It is a twenty-four page monthly, well-gotten up and filled with readable matter. It will be devoted mainly to the therapeutic of the Hot Springs and to educating the profession with regard to the merits of these waters. The editors are all well qualified and *en rapport* with regular medicine. We wish the new journal success. Dr. Charles H. Stowell, formerly of *The Microscope* is editor of *The National Medical Review*, at Washinton, D. C., which is handsomely-gotten-up and filled with current medical literature and editorial pertinent to the times. *The International Medical Magazine* is just issued in Philadelphia by the Lippincotts. Dr. Judson Daland and a corps of assistants edit it.

All of these have qualified editors and launch out under favorable auspices.

THE CENTURY.—A new volume of *The Century* will begin in May. Three important serial features will be commenced in this number, namely, Señor Castelar's "Life of Christopher Columbus;" "The Chosen Valley," a novel of Western life, by Mary Hallock Foote; and the series of articles describing the architectural features of the World's Fair, which a well-known architect is to contribute. In addition to the serials now running, it will contain complete stories by Thomas Nelson Page and Wolcott Balestier, and a humorous skit by Harry Stillwell Edwards, author of "Two Runaways."

ADDRESSES, PAPERS AND DISCUSSIONS in the Section of Otolaryngology at the Forty-Second Annual Meeting of the American Medical Association, at Washington, D. C., May 5—8, 1891.

This is a collection of practical papers on practical subjects and therefore equally as important to the general practitioner as to the specialist.

In a paper on "The Etiology and Treatment of Tinnitus Aurium," Dr. Laurance Turnbull says neurologists and psychologists do not estimate the importance of aural diseases on nervous and mental disorders or give it due attention in their examinations.

We acknowledge the receipt of the following "Publications du Progrès Médical, Paris:" Clinique des Maladies du Système nerveux M. le Professeur Charcot. Leçons du Professeur, Mémoires, sous la direction de Georges Guinon. Recherches Cliniques et Thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie, par Bourneville. They will be reviewed in subsequent editions.

Address of the President, Dr. Wharton Sinkler, of Philadelphia, at the Seventeenth Annual Meeting of the American Neurological Association, held at Washington, D. C., Sept. 22d, 23d and 24th, 1891.

The Treatment of Epilepsy; With Special Reference to the use of Potassium Bromate, Magnesium Bromide, Nitro-Glycerin, Antifebrin, Sulphonal, etc. By Guy Hinsdale, M. D., Philadelphia.

A Study of the Indications for, and Application of, Physical Culture in the Treatment of Insanity and Allied Diseases. By H. A. Tomlinson, M. D., Frankford, Phila.

Some Suggestions Concerning the Etiology of General Paralysis. By H. A. Tomlinson, M. D., now First Assistant Physician Minnesota Hospital, St. Peter.

A Case of Tumor of the Cerebellum, in which Trephining was done for the Relief of Increased Intra-Cranial Pressure. By Philip Coombs Knapp, A. M., M. D.

The Size of Several Cranial Nerves in Man as Indicated by the Areas of their Cross-Sections. By Henry H. Donaldson and T. L. Bolton, Worcester, Mass.

An Appeal to the Medical Profession from the Decision of the Trustees of Columbus Medical College. By N. R. Coleman, M. D., Columbus, Ohio.

An Account of the Influenza as it Appeared in Philadelphia in the Winters of 1889-'90 and of 1891-'2. By J. Howe Adams, M. D., Philadelphia.

A Case of Acute Spinal Paralysis; Death on the Twelfth Day; Autopsy showing Transverse Cervical Myelitis. By Wharton Sinkler, M. D.

Notes on General versus Local Treatment of Catarrhal Inflammations of the Upper Air-Tract. By Beverley Robinson, M. D., New York.

The Buffalo Lithia Waters in the Treatment of Diseases of the Nervous System. By G. Halsted Boyland, M. D., M. A., New York.

Lesions of the Superior Temporal Convolutions Accurately Locating the Auditory Centre. By Charles K. Mills, M. D., Philadelphia.

Some Points in the Diagnosis and Nature of Certain Functional and Organic Nervous Diseases. By J. T. Eskridge, M. D., Denver, Col.

Old and New Ideas with Regard to the Work and the Organization of Institutions for the Insane. By Richard Dewey, M. D., Chicago.

Aphasia Due to Sub-dural Hemorrhage Without External Signs of Injury. By L. Bremer, M. D. and N. B. Carson, M. D., St. Louis.

Oxygen as a Distinct Remedy for Disease and a Life-Saving Agent in Extreme Cases. By A. W. Catlin, A. M., M. D., Brooklyn, N. Y.

A New Substitute for Capital Punishment and Means for Preventing the Propagation of Criminals. By William A. Hammond, M. D.

Heterophoria, a Safe line Drawn Between Operative and Non-Operative Cases. By G. C. Savage, M. D., Nashville, Tenn.

Tuberculin, the Value and Limitation of its Use in Consumption. By Charles Denison, A. M., M. D., Denver, Colorado.

The Degenerative Diseases of the Spinal Cord, with the Description of a New Type. By Charles L. Dana, A. M., M. D.

Eighteenth Annual Report of the Superintendent of the Cincinnati Sanitarium for the Year ending November 30, 1891.

Empiricism, Rational Practice, Practice Under Guidance of Law. By Charles S. Mack, M. D., Ann Arbor, Mich.

The Nature and Frequency of Inebriety, with Remarks on its Treatment. By Charles L. Dana, A. M., M. D.

On Some of the Factors Contributory to the Development of Bright's Disease. By L. Bremer, M. D., St. Louis.

Sarcoma of the Dorso-Scapular Region; Operation, Recovery. By George N. Lowe, M. D., Randall, Kansas.

Contributo Clinico ed Anatomico-Patologico alla dottrina della cecità verbale. Per il Prof. L. Bianchi, Napoli.

An Outline of the Application of Microscopy to Pharmacy. By H. M. Whelpley, M. D., Ph. G., F. R. M. S.

Nervo-Vascular Disturbances in Unacclimated Persons in Colorado. By J. T. Eskridge, M. D., Denver, Col.

The Nervous and Mental Phenomena and Sequelæ of Influenza. By Charles K. Mills, M. D., Philadelphia.

The Remote Results of Removal of the Tubes and Ovaries. By Wharton Sinkler, M. D., Philadelphia.

Members of the Association of Medical Superintendents of American Institutions for the Insane, 1892.

Two Cases of Trephining for Traumatic Epilepsy. By Philip Coombs Knapp, A. M., M. D. and Abner Post, M. D., Boston.

Bilateral Facial Paralysis, with Report of a Case. By M. Imogene Bassette, M. D., Philadelphia.

What Can We Expect From The Surgical Treatment of Epilepsy? By B. Sachs, M. D., New York.

Memorial from the Asylum for Insane Criminals, at Auburn, N. Y., to the New York Legislature.

Multiple Neuritis and some of its Complications. By Charles K. Mills, M. D., Philadelphia.

A Study of Alcoholism as it occurs in the Bellevue Hospital "Cells." By Charles L. Dana, M. D.

On the Relation of Epilepsy to Injury of the Head. By James J. Putnam, M. D., Boston.

The Nature and Cause of the Scleroses of the Spinal Cord. By Charles L. Dana, M. D.

Chorea in the Aged—The Report of a Case. By Frank R. Fry, A. M., M. D., St. Louis.

The Semi-Private Care of Epileptics. By Lucius W. Baker, M. D., Baldwinville, Mass.

Insanity as Related to Civilization. By Orpheus Everts, M. D., Cincinnati, Ohio.

Aphasia and Other Affections of Speech. By Charles K. Mills, M. D., Philadelphia.

A Contribution to Spinal-Cord Surgery. By Archibald Church, M. D. and D. W. Elsendrath, M. D., Chicago.

Subacute Recurrent Multiple Neuritis. By J. T. Eskridge, M. D., Denver, Col.

Poliomyelitis with Perineuritis. By J. T. Eskridge, M. D., Denver, Colorado.

Athetosis, with Clinical Cases. By Archibald Church, M. D., Chicago.

Treatment of Laryngeal Phthisis. Robert Levy, M. D., Denver Col.

Somnal—A Hypnotic. By Irving D. Wiltrout, M. D., Hudson, Wis.

Tobacco Insanity and Nervousness. By Dr. L. Bremer, St Louis.

Dipsomania. By Lucius W. Baker, M. D., Baldwinville, Mass.

Tumor of the Brain. By J. T. Eskridge, M. D., Denver, Col.

Clinical Report of Six Surgical Cases. By Dr. G. W. Cale.

Astasia-Abasia. By Philip Coombs Knapp, A. M., M. D.

Cervello E Società, dal D.re Leonardo Bianchi, Napoli.

Poliomyelitis. By J. T. Eskridge, M. D., Denver, Col.



Henry Earle.

THE Alienist and Neurologist.

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No. 3.

ORIGINAL CONTRIBUTIONS.

The Insanity Following Exhaustion, Acute Diseases, Injuries, Etc.

By JOHN FERGUSON, M. A., M. D., Tor.; L. R. C. P., Edin.;
L. F. P. S., Glas.;

Late Demonstrator of Anatomy (Winter Session) and Lecturer on Nervous Diseases
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THE first statement I wish to make is that I do not wish to create a new class of insanity. Much has been written and said in lectures, on a group of cases, in which there is an attack of insanity after some exhausting illness, operation or nervous strain. Such names as puerperal insanity, post-febrile insanity, typhomania, etc., bear testimony to the fact that different writers have regarded these cases from a different stand-point. So far, however, no one has shown that there exists any one constant pathological condition. By some there has been thought to exist an inflammation of the brain or its membranes, or both. By others the insanity is regarded as the result of some poison circulating in the blood and acting upon the brain; while by others the condition is held as springing out of mental worry and anxiety.

In the ALIENIST AND NEUROLOGIST for October, 1890, there appeared a very carefully-prepared paper by Theodore

Diller, of St. Louis, on "Typhomania." This paper was based on three cases that came under his observation. The opinion of this writer is that a fatal termination is not nearly so frequent as has been held by many. Further, he regards puerperal insanity and typhomania as the same pathological condition, differing in degree of severity only. The cause he claims to be one of great exhaustion of the cerebral centers.

H. C. Wood, of Philadelphia, in an article on "Insanity After Acute Surgical and Medical Affections," which appeared in the *University Medical Magazine* for December, 1889, holds that the fundamental condition in these cases of insanity is an altered state of cerebral nutrition. This altered state of cerebral nutrition, the impaired cerebral tone, or cerebral exhaustion, found in all these cases, may be caused by any disease, accident, operation or mental worry. For this group of cases of alienation he proposes the name Confusional Insanity. Two points should be noted carefully in Wood's paper. First, he says that the insanity comes on during recovery from acute specific diseases, at a time when the specific's poison has ceased to act. Second, that it comes after diseases and conditions where there is no specific poison present. These reasons he regards as sufficient to set aside the belief that such cases of insanity are due to any specific poison. Wood's article is worth thoughtful study. The five cases he reports all recovered.

E. G. Whittle, in a paper on "Congestive Neurasthenia," deals in a thoroughly scientific manner with a number of interesting questions. He draws a distinction between the anæmic and congestive types of neurasthenia. The mental symptoms of the latter he characterizes as restlessness, irritability, wakefulness, melancholia and inability to concentrate thought. This condition is met with in persons of sound constitution and good intellectual ability. It is the result of prolonged brain strain. This condition of brain strain is intensified by the indulgence in unwholesome mental excitement, as the pursuit of

risky speculations requiring close watch; or by protracted efforts in honest regular employment, unrelieved by any form of recreation. As the condition just described becomes worse delusions make their appearance. In these cases we have an overworked and exhausted, concurrently with a congested, state of the brain. From the congested condition of the brain on the one hand, with its exhausted and irritated condition on the other there arise not a few cases of insanity of the typical confusional form as described by H. C. Wood.

W. L. Worcester, in the *American Journal of Insanity* for July, 1890, has an article on "Puerperal Insanity." The writer bases his observations on eight characteristic cases, and asks the question, Is puerperal insanity a distinct form? From a comparison of these cases with each other and with cases of insanity with similar symptoms, but not related in any way to the puerperal state, the author concludes that puerperal insanity cannot be regarded as a distinct variety. With this conclusion I think most will agree.

In the Johns Hopkins Hospital Reports, January, 1890, W. Osler records five cases which came under his observation and mentions two others that he had seen at earlier dates in another hospital. Of the seven cases of insanity following fibrile states, referred to by Osler, six had recovered and the remaining one was recovering at the date when the report was written. Such cases, the author remarks truly, are "the counterpart in medical practice of the insanity seen by surgeons after operations, and of the puerperal insanity described by obstetricians." It is to be regretted that so eminent a pathologist did not express an opinion upon the pathology of these cases.

Edward Cowles, in the Shattuck Lecture, recently published in the *Boston Medical and Surgical Journal*, draws a splendid picture of the mental and physical conditions found in neurasthenia. He passes under careful review the relationship between normal and pathological fatigue; traces the steps by which the former

becomes the latter, and shows how perverted states of consciousness take hold of the neurasthenic. In the production of the complicated bodily and mental symptoms of this disease, the lecturer argues that there exist the two conditions of reduced nutrition of the nerve elements on one hand, and an auto-intoxication from some injurious material engendered within the system on the other. The opinion of an auto-intoxication process is also held by A. Haig, in his writings; and by Lauder Brunton, in a lecture lately published in the *British Medical Journal*.

Dr. Conolly Norman, at the meeting of the *Royal Academy of Medicine, Ireland*, held May 16th, 1890, read a paper on "Confusional Insanity." He regarded this form of insanity as lying between acute mania on one hand, and acute dementia on the other. This variety of mental alienation contained a large number of cases. There is an engagement of consciousness in a dream-like confusion together with hallucinations. These cases Dr. Norman regards as of very great interest to the general practitioner, as they follow phthisis, rheumatism, operations, acute diseases, or confinements, etc. He urged the close connection between excessive drinking and confusional insanity, and the mental symptoms found in alcoholism illustrated the various forms of this type of insanity. A point to which he called attention was its occurrence in diseases not primarily affecting the nervous system. He reported nine cases.

Dr. George H. Savage, of Bethlem Royal Hospital, read at the Dublin meeting of the British Medical Association in 1887, an exhaustive paper on "Insanity Following the Use of Anæsthetics." He contended that in those forms of insanity following operations, shocks, diseases, or anæsthesia, there was rarely only one cause. If the histories of these cases were carefully inquired into there would usually be found either a hereditary or an acquired predisposition to insanity, or both. Agents which caused temporary derangement of the mind might

give rise to permanent derangement. Causes which could produce delirium, or allied states, could start insanity. This insanity often assumed a delirious type. The insanity might be transient, persistent, and end in progressive dementia, or in general paresis. The opinion held as to the pathology of these cases was that the anæsthetic depressed the activity of the higher cerebral mechanism, and left the lower to operate uninhibited. Of six cases, two recovered health and reason.

F. J. Shepherd, of Montreal, read a paper at the Canada Medical Association, which was published in the *American Journal of Medical Sciences*, December 1888. He gives a detailed account of six cases of insanity following surgical injury. Of the six cases three got well. The author of the paper offers no suggestions on the pathology of these cases.

T. Gaillard Thomas read before the New York Academy of Medicine, April 4th, 1889, a paper dealing with cases of "Insanity after Gynecological Operations." He recorded six cases he had had in his practice, three of mania and three of melancholia. Four out of the six died, one recovered, and one was improving at the date of writing. In four of the cases no iodoform was used. No distinct heredity could be traced. In one case the attack was very sudden, in the remaining five there were distinct prodromata. There was no septicæmia in any of the cases. The author of the paper asks some very pertinent questions as to the etiology of these cases, but offers no opinions on their pathology. During the discussion on the paper, twelve additional cases were reported, of which seven got well.

E. J. Ill, of Newark, in 1887, reported three cases of insanity following gynecological operations. All recovered. One was an example of acute mania, the other two were instances of melancholia. These are among the first cases on record in America of mental disturbance in women following surgical proceedings on the genital tract.

At the meeting of the German Gynecological Society for 1888 (*Centralblatt für Gynecologie*) Werth gave an account of six cases he had met. The form of insanity was manic in one, melancholic in five. Three of the six recovered. He did not believe that these psychoses were functional disturbances produced by mutilation of the sexual organs. He refers these cases back to their psychological causes, as found in other cases of insanity. In this view Saenger, Martin and Ahlfeld concurred. He further held that operations on the genital tract did not cause insanity more frequently than other surgical operations. All seemed agreed that the predisposition to the insanity already existed and that the surgical procedures only act as the exciting causes. Frommel reported, during the discussion, two cases in which reason did not return.

In the *Berlin Klin. Woch.* for 1887 there is a report of seven cases. These cases were reported at the Gynecological Society of Berlin, by Graube, Duerelius and Czempin. One of them died of acute mania.

Charles D. Fillebrown, writing from Hamburg, as the assistant to L. Prochownick, has an article in the January number of the *American Journal of Obstetrics* for 1889. In the above article there are mentioned seven cases of insanity in all. Four of these cases followed gynecological operations of some kind. One of these died and a tumor was found in the brain, which had been suspected before death. Setting this case aside, of the remaining three after operation, one got quite well and two, at the date of writing had nearly recovered, with only occasional spells of short duration, of hypochondriasis, or excitement. The other three cases of insanity followed the rupture of some form of abdominal cyst, ovarian in one, pio-salpinx in a second and extra-uterine pregnancy in the third. Of these, two made good recoveries, while the third apparently got well, but subsequently committed suicide two months later. In the first three cases no hereditary tendencies to insanity could be discovered. With regard to the pathology of these cases the author thinks they are of

a reflex character. The peripheral irritation arising from the operation, or the rupture of a cyst, is reflected upon the brain, and thus operates in overthrowing the mental balance. The psychosis is probably limited to cases where the convalescence has been disturbed in some way.

T. B. Hyslop, in the Section of Psychology, British Medical Association, 1890, gave a full account of insanity following sunstroke. He based his paper on a record of fifty-five cases of insanity. Imbecility, weak-mindedness and epilepsy were among the most common sequelæ of sunstroke in young persons. In the adult, insanity following sunstroke was much like that following traumatism. Thermic conditions, as found in *coup de soleil* and *coup de chaleur*, produced an acquired predisposition to insanity. In many cases the symptoms resembled general paralysis, alcoholic insanity and syphilitic diseases of the brain and its membranes. In the discussion that followed, most agreed that the leading form assumed by these cases was one of dreamy dementia. As to the pathology there was considerable diversity of opinion. The author of the paper described the changes seen in five autopsies. There were the morbid changes of congestion of the meninges, hyperæmia of the brain, serous effusion into the ventricles, and red and yellow softening in varying degrees in the different examples.

In the *London Lancet*, Vol. I., 1875, page 73, there is an account of a case of acute mania following amputation above the knee. On the third day after the amputation, the patient became suddenly maniacal. He was very vicious, had delusions of grandeur, refused food and medicine and vociferated madly. He had almost continuous insomnia. He thought he was very wealthy. The mental balance was regained in about one month, and the patient made a good recovery. In the December number of the *London Lancet*, 1874, a somewhat similar case is reported by Ferguson. There was no history of insanity in the family.

R. Barwell, at the Clinical Society of London (*British*

Medical Journal, Vol. I., 1885, page 597) gave a very excellent account of a case of insanity following ovariectomy. The operation was performed on October 28th, and the patient exhibited mental derangement on November 3d. By November 7th she had to be secured. There was very marked insomnia, which was best relieved by ice-bags to the head. She had recovered and was discharged well on December 29th. Mr. Barwell stated that in conversation he had heard of several cases as follows: one by Keith, after hysterectomy; two by Thornton, after ovariectomy and hysterectomy; one by Dent. In the discussion that followed the paper, the President, Mr. T. Bryant, mentioned two cases of insanity after ovariectomy in his practice. Both got better. Mr. Doran reported a case following ovariectomy in which mania was developed. The patient was still deranged at the date of the meeting. Mr. Meredith had met with a case of acute melancholia that came on four weeks after the removal of a tumor weighing seventy pounds. The patient was insane for two months and suddenly got well. There had been no return after four years. Edis also mentioned a case of melancholia after ovariectomy. The patient recovered and continued well. In dealing with the pathology Mr. Barwell remarked there was not always a family history of insanity. In his own case there was no hereditary taint. If it was an occasional sequel of surgical operations it had not received much attention. Though disturbance of genital tract seemed to offer the easiest explanation, he did not think it was the real exciting factor. Altogether, he thought that it was to be explained on the grounds of mental anxiety, loss of blood, exhaustion, etc. The above cases are the first definite reports in British practice on insanity following operations on the female genital organs. It is unfortunate that the mortality or duration of the insanity in those cases reported by Barwell at the above meeting of the Clinical Society was not more fully recorded.

John Hawkins (*London Lancet*, November, 1872) gives

the statistics of 3,847 patients in one of the British Asylums. Of this number the insanity was induced in three instances by artificial heat; in six by solar heat; in twenty-six by sunstroke; in one by lightning; in twenty-nine by acute fevers; in three by syphilis; in three by exhaustion from illness; in two by an injury. The above figures are of extreme interest as they show about the percentage of insanity arising from acute diseases and accidents, and the wide range of the acute illnesses that are competent to upset the mental processes by first deranging the physical organism. Another point in the above record of cases is that when seventy-three were regarded as permanently insane a very considerable number must have been insane for a short period and recovered, not finding their way into the asylum at all.

A very striking example of insanity accompanying an acute illness is given by W. R. Williams, in the *London Lancet*, 1874, Vol. I., page 603. The patient was admitted into the Bethlem Royal Asylum on February 24th. He was then insane and had delusions of grandeur. He then became sullen. It was noticed that there was a discharge from one ear. An abscess was detected and opened. The patient at once became sane. This case is instructive, as it shows clearly how the functions of the brain can be deranged by the presence of local disease, causing irritation and septic processs. It also shows that when the insanity is due to a surgical disease, operation would likely be a justifiable procedure and relieve the mental disturbance.

Van der Kolk gives an account of a case in which there were violent nervous symptoms with hallucinations, visual and auditory, caused by an attack of inflammation of the bladder. The patient thought he was persecuted and was dangerous. The cure of the bladder trouble cured the insanity. He had a second attack of cystitis and at once the insanity returned. As soon as he was again cured of the cystitis he became sane and remained so. The insanity on both occasions was maniacal.

Niemeyer described a case of a man who became insane in conjunction with an attack of gastritis. During the illness the patient thought he had lost his great wealth and was reduced to bankruptcy. As soon as he regained his former health his delusions disappeared and he resumed his business undertakings with energy, continuing in good health afterwards. This case was clearly one of melancholia. He believed he had lost his wealth and so was insane. Acting in accordance with this belief he suspended financial operations. Had his melancholy been a stage deeper, he would probably have thought he had committed the unpardonable sin instead of losing his wealth.

Dr. Ahlfeld (*Münchener Med. Woch.*, 1888) relates the case of a lady who was taken with an attack of acute insanity from the introduction of a speculum. The attack was violent and maniacal in form. No other operation was performed. The mental equilibrium became restored and she continued permanently well.

Theo. B. Hausen, *Zeit. f. Geb. u. Gyn.*, 1888, gives the details of forty-nine cases of puerperal insanity. In forty-two there was evidence of infection. Of these, in forty, the type was that of confusional insanity, with hallucinations; in two, there was a period of mania with hallucinations. Of the remaining seven cases, five had the above general character, with epileptiform convulsions added; one was an example of acute mania, without hallucinations, and one, a case of melancholia. To quote from the author, "it is scarcely an exaggeration to say, that if in the first week of the puerperium, a psychosis in the form of an acute confusional insanity with hallucinations appears, without the occurrence of another non-puerperal, acute infectious disease and without preceding eclampsia, one can be sure puerperal infection is present, even when fever and other physical symptoms are not discoverable by a thorough examination." Such are the views, also, of Clouston, who argues in favor of septic affection. No doubt the above statement is true in the main, yet I, for

one, am not convinced that, because we have an insanity, there is infection, though we cannot trace it. The shock and fatigue of labor may be cause enough, without the aid of infection.

W. A. Gorton, in the *American Journal of Insanity*, reports two cases of insanity following anæsthesia by ether.

The first case was a boy, 15 years of age, who had had teeth removed under ether. He became maniacal. After a time he recovered from the mania, but remained weak-minded.

The second case was a young woman, aged 22 years. She had some teeth removed under ether. Subsequently to this she passed through a lengthy period of mild melancholia, then through an attack of very active mania, finally making a good recovery. No insanity in the family history of either could be discovered.

C. B. Nancrede, Vol. V., "International Cyc. Surg.," records a case of insanity of three months' duration following cerebral concussion. The patient was very violent at times, but finally made a perfect recovery.

J. M. Mosher, *American Journal of Insanity*, October, 1891, mentions a case of melancholia following pleurisy. There was an extensive effusion into the pleural space. This was twice aspirated. There was severe pain, and the temperature ran up to 103°. The combined influence of the aspirations, pain and fever, appeared to have a good effect. The patient made an excellent recovery.

M. Mairet, *Bulletin Medical*, Aug. 28, Sept. 1, 1889, gives a good account of a case of a woman, aged 39, who became insane after a laparotomy. At first she would laugh and act hysterically. Later she became morose and wandered very much. She was admitted to an asylum three and a half months after the operation, and died from failure of nutrition thirty-five days after admission. Mairet believes the operation was the etiology of the attack. Mairet concludes by saying:

1, That it is in those with predisposition that the operation acts most readily in causing insanity. 2, Among the factors in an operation

we have the anæsthesia, traumatism, shock, lowered nutrition and septic infections to consider as conservative. 8, In those with strong predisposition, slight injury or anæsthesia may evolve an attack of insanity.

Von Frankl-Hochwart (*Fahrh. f. Psych.*, 1889-90) reports thirty-one cases following various eye operations. Regarding the etiology of these cases, the author thinks the simplest and best explanation is to regard them as psychoses directly connected with the operations which acted as exciting causes. The form was usually delusional and hallucinatory. The cases which have been collected together in the above historical review, along with those to be reported from my own practice, afford a fairly broad basis for an estimate on those attacks of insanity following diseases, injuries, anæsthetics, etc. I have not included in this review all the cases reported, having omitted some which did not seem to bear so closely upon the question as those chosen. In a few instances also I have made the omission, because the original reports were not within my reach, and I was desirous to give no facts on second-hand evidence. It is hoped, however, that what has been done may form, to a slight extent, a foundation for a more complete collection of all recorded examples of such insanities. The question is a wide one and a most important one. In the etiology, pathology, symptomatology, prognosis and therapeutics of these cases there is a vast amount of work to be done. It is by a careful sifting of the possible material within our reach that true views can be arrived at, and false ones exploded.

CASE I.—This patient was a lady, 50 years of age. She had always been in good health. She had two children, both being healthy. There was no history of insanity. While going to church, as she stepped into a row-boat to cross a small body of water, she missed her footing and fell into the water. She was almost drowned. For two weeks she did well, and through rest and care was recovering from the shock and some bruises she sustained. At the end of this time, however,

there were signs of mental derangement. She became melancholic. Memory failed almost completely. She would lie for hours fumbling with the bed clothes. It was nearly impossible to get her to answer any question. It was very hard to induce her to take nourishment. She had the delusion that she was still in the water. She thought there was no use in treating her, as she could not improve while in the water. This delusion gradually changed into one of suspicion, fearing a plot to bury her alive. By the end of six months she had recovered from the delusions, but was still weak, fatiguing readily by a short conversation. She is now in her fifty-third year, and remains well.

CASE II.—Miss S. was in her thirty-eighth year when she married a widower of means, who had a family of six children, all living. She was a year married, when she had an attack of pleurisy and inflammatory rheumatism. She was not pregnant and had never been in this condition. She had had a great deal of care and anxiety with the step-children. She was pale, anæmic and careworn. There was not much pleuritic effusion and the patient was well from the rheumatism in three weeks. Shortly after this she was missing from home one night. Search was made and she was found in a field some distance from home. She was lying on the ground concealing herself behind a little hill. She gave as a reason for leaving home that she wished to be frozen to death, believing this to be a pleasant way to die. As the night was a bitter cold one in mid-winter, she would most likely have accomplished her object had the searchers not speedily been successful. She had a most remarkable delusion, to the effect that she would die and, in this way, see the husband's first wife, to consult with her about the management of the children. There were auditory hallucinations. She constantly bemoaned her responsibility regarding her domestic duties and complained of her utter inability to cope with them. The state of her grief and mental worry about the religious training of the children were most extreme. She lost weight rapidly and became very much emaciated. Her temperature was sometimes subnormal—only twice found to be above normal. There was a history of insanity. Her father had, in a few years, made some most reckless investments and squandered a considerable fortune in

foolish extravagance, ending all up by drowning himself in the Niagara river. A sister had suffered with neurasthenia and mild alienation. Four months of seclusion, rest, massage and careful feeding, almost effected a cure. Her delusions had disappeared; but she still felt weak and was easily fatigued, especially by conversation, as she said it wearied her more to think of what she ought to say than to perform light work or to take mild exercise. A trip to Scotland completed the cure. This patient has now remained in perfect health for nearly eight years.

CASE III.—The patient, a lady aged 44, had nursed her husband and son through severe illnesses. She had lost a great deal of sleep and had been subjected to very much anxiety. As soon as the state of affairs would permit, she left her home in New York and came to Toronto to stay with her sister for a period of rest. The first night after her arrival she fretted a good deal and lay awake all night. She and her sister called upon me the next morning. She looked and talked as if decidedly deranged. No words of mine could persuade her that her son—the last one ill—would not have a relapse on account of her leaving him. Her eyes were congested and suffused. Her pulse was over 100 and temperature 99° F. She was thin and emaciated, kept constantly turning and twisting on the chair or getting up and walking about the office, looking at things and then sitting down. She seemed very suspicious and answered interrogations with much hesitation. She was instructed to go home with her sister and rest that day; and, at bedtime, to take a warm bath. This was done. I called to see her at 11 P. M. and found her in bed, but quite excited. Her sister was in the room trying to show her how foolish her fears were. I gave a hypodermic injection of Merck's hyoscyamine, gr. $\frac{1}{10}$. As the result of this she got six hours' sleep. Next day she was full of suspicions and believed there was a conspiracy afoot to poison her. To overcome this I engaged a room in another house and placed her under the control of an experienced nurse. This had a good effect. She was kept absolutely secluded and was treated by massage, electricity, forced feeding and rest. To secure sleep the warm bath and the hyoscyamine were employed for three weeks. At the end of that time the latter was dropped, but the baths were continued for some time. Under the above treatment she

gained in flesh and color. Her sleep improved and her delusions gradually left her. By the end of three months she was able to return home to New York, mentally sound, but still physically weak. During the early period of her insanity she had a strong desire to commit suicide, and on one occasion made an attempt with a sharp knife she had got possession of by stealth. She has now remained well for more than four years. There were hereditary tendencies, but I could not get particulars.

CASE IV.—This is a very interesting case. The subject was a man in his fifty-second year. He had always enjoyed good health and was an active business man. He met with a rapid succession of reverses and had made tremendous efforts to regain his lost ground. Under the strain he began to show symptoms of mental trouble, which were more of the form of irresolution, restlessness, wakefulness and a belief that he was doing well, while in reality he was losing ground all the time, than actually defined insanity. At this juncture, his only son, a boy of fourteen years, took ill and died. The father was most devoted in his attendance and could not be induced to take either sufficient food or sleep. The day after the funeral he became very weak-minded and childish. The least reference to the death of his son caused him to cry in a most pitiable manner. He did not lose flesh to any great extent, but his muscles became extremely flabby and soft. In three weeks from the time he took ill he was almost a complete paralytic. His tongue was thickly coated with a white fur and around his feet was an accumulation of debris from food. His tongue was protruded very much after the fashion seen in advanced glosso-labial paralysis. Great loss of memory marked the case. There did not appear to be any delusions or hallucinations. The knee-jerk was exaggerated, which would accord with the view I hold with Jackson and Bastian, and which I have elsewhere advocated, that this phenomenon is due to cerebellar influx. During the last two weeks of life there was much difficulty in swallowing. He was ill altogether fifteen weeks, dating from the death of his boy. The only history in this case is that several years before the fatal illness he had had an attack of insomnia which lasted several weeks. The *post-mortem* revealed the appearance of much softening, waste and atrophy in the cerebral convolutions.

Under the microscope the cells of the cerebral cortex were greatly atrophied. The cerebellum showed but little change. Now here, I think, comes in the proof for the view that the knee-jerk is due to cerebellar influx. The cerebral matter was so diseased as to have lost its inhibitory power over the lower centers, while the cerebellum remained nearly normal and therefore sent to the lower spinal centers its accustomed stimulus. In this way the knee-jerk was exaggerated. There is no doubt but that this was a case of acute general cerebral paralysis, where the symptoms of dementia predominated over those of mania or activity. He died in the condition of typical asphyxia.

CASE V.—A single woman, aged 44, still menstruating. She had been told that she had heart disease and had worried about it a good deal. She had a few teeth extracted under ether. I saw her for the first time five days after the extraction of the teeth. She was then decidedly melancholic and was greatly depressed. She had the firm belief that her heart was diseased and that she could not get better. She was very sleepless, was troubled with alarming dreams when she did sleep, was feeding badly, and on one occasion had wantonly destroyed some useful articles. She would not go out on the streets, as she thought everyone would be watching her and laughing at her for having bought goods she had not paid for. There was no foundation, in fact, for this delusion. One brother had died at the age of forty-five of general paresis. There was no other trace of insanity or nervous affections in the family history. After a lapse of five months she has improved sufficiently to go out on the streets. There is still some insomnia, but she is eating well and gaining in weight. Sleep was obtained throughout by means of hyoscyamine, which, I think, is particularly useful in cases with troublesome dreams, as shown by Dr. E. C. Seguin.

CASE VI.—The patient was a young man, aged 30, who contracted syphilis. He worried himself very much about his misfortune and became sleepless. To overcome this he began using chloral. This he kept on taking in increasing quantities. He was a medical student and undertook his own treatment. He became completely discouraged as his examinations approached and went to

his home in the country. Here he became insane. His friends brought him on the train to Toronto with the object of placing him under treatment for his insanity. On his way to the city he jumped off the train, while going about thirty miles an hour and rolled down an embankment. He was little hurt except some bruises and scratches. As I knew him well in college, I was sent for and found him in a state of acute mania. He had the delusion that he had given the disease to the whole world and that everyone was watching for him to take his life. He had a strong suicidal tendency. I diagnosed meningitis. His temperature the evening I saw him first was 103. There was aversion to food. He had distinct optic neuritis. He was put on potassium iodide in increasing doses, till he was taking grs. 90 daily. In six weeks his delusions were all gone. He made a good recovery. Jonathan Hutchinson mentions a similar case. There was in my case a distinct history of insanity in the family record.

CASE VII.—This case occurred in my last year as a student in the hospital. Chloroform was administered to the patient, a young single woman, for the purpose of operating on one of her eyes. On coming from the influence of the anæsthetic it was noticed that she was mentally deranged. She remained maniacal for some time with delusions, but ultimately got quite well. There was a distinct history of heredity. In this case it is hard to say how much was due to the chloroform and how much to the operation. Anæsthetics have been known to cause insanity and so have injuries. The infliction of an injury by the surgeon may act similarly to an injury by accident. The anæsthetic and the operation may have a joint influence in such a case as the above. The fact is there was a hereditary taint and either factor might have, acting separately, upset the mental equilibrium, both acting together would be more likely to have the same termination.

CASE VIII.—The subject of this attack of insanity is a man, aged 38. He has always been a very active person. Lately he had a great deal of business worry, and had tried the old remedy of drowning dull care with whiskey and brandy. One day, when on the street, he was taken suddenly with a faintish feeling and palpitation. He was

driven home and I saw him in about an hour. It was quite impossible to persuade him that his heart would recover and that the attack was not serious. He regarded his own case as hopeless. He had a very anxious look. The following day there were symptoms of genuine insanity. The cardiac action was weak and rapid. His eyes were excited. He had slept badly. He believed his heart was going to stop. Two days later he had distinct auditory hallucinations; and, as a delusion, thought that his creditors were outside waiting to sieze him if he went beyond his door-steps. All stimulants were withdrawn. He was kept in his room, was carefully fed, sleep secured by hypodermic injections of hyoscyamine, given a tonic containing iron, quinine, strychnine and digitalis. The bowels were acted on by blue pill and salines once a week. The hallucinations and delusions gradually disappeared, and the melancholia gave place to a more cheerful view of things. During the three and a half months of treatment, he had gained very considerably in weight. Although it took six months to restore health, he had no return of delusions. His father died of some mental trouble, and a brother of cerebral paresis, in a British asylum. There is no doubt that this was a case of simple melancholia. He had been gradually drifting into low health through work and worry, and had been trying to keep himself up with stimulants. The crisis was ushered in by the attack of palpitation.

CASE IX.—Female, age 26. She was in the fourth month of her first pregnancy. She had twice consulted me within a few weeks for a feeling of depression and weakness. She was anæmic and was not taking food well. She complained of a feeling of epigastric uneasiness. She had the misfortune to sprain her right ankle slightly. This put the match to the powder, and she became acutely maniacal. She was anxious looking, lost flesh, was sleepless, talked incessantly, suspected everybody of plotting against her. There were hallucinations. She would spit her food and saliva from her mouth on the bed. The pulse was 135 and temperature 99 and 100 for a few days, then normal. To quiet her chloral, digitalis and hyoscyamine were ordered. Tonics and forced feeding were maintained. In five weeks she had regained her mental poise, but was very weak. She went on to

the end of pregnancy and had no relapse. Great care was given to her general health in the meantime. For the anæmia she was ordered ferri carb. sacch., gr. xxx.; acid arseniosi, gr. $\frac{1}{10}$; strychnia, gr. $\frac{1}{10}$; quin. sulph., gr. i.: three times a day. A mild course of massage was given also. This was no doubt a case of ordinary acute mania, following an accident, where the patient was in poor health and hypochondriacal at the time.

CASE X.—Male, about 45 years of age. The subject of this attack was a very powerful man. He had been addicted to drink a good deal, but had not drunk any for several months. An embankment caved in where he was working, fracturing his leg midway between the ankle and knee. The fracture was treated by coaptation splints and extension. All went on well till the tenth day. He became sleepless and very restless. His face had an anxious, excited look. He talked a great deal and said he had been ordered to go to work. This hallucination he adhered to. During next night he got up and dragged the bedstead around his room. He was put in a jacket; was ordered paraldehyde, 3i every half-hour until he went to sleep. The period of active mania lasted three weeks and then changed to that of simple melancholia, with the persistent belief that his leg would not unite, and that it would have to be cut off. Under this delusion he had a strong suicidal tendency, in order that he might die with his leg on, and be buried with it. This again changed into a further belief that he could not enter heaven without his leg. When asked why he desired to end his life, he said he felt that he must do it, but there were no evidences of hallucinations impelling him on during this stage of the attack. His leg was well enough for him to walk before he became free of his delusions. There was a strong hereditary taint, as an uncle, an aunt and one grandmother had been mentally deranged. Throughout the whole period of illness great care was taken to keep the patient quiet, to see that he was well fed, and to secure plenty of sleep by means of paraldehyde, a mixture of chloral and digitalis, and hyoscyamine.

CASE XI.—This patient was delivered of her ninth child in her forty-fourth year. Forceps had to be applied, but no anæsthetic was given. She had suffered from epilepsy for many years, but never had an attack of insanity

prior to the attack now described. She made a splendid recovery after her confinement. There was no febrile disturbance, nor any reason to suppose septic infection of the system. On the twentieth night after delivery, she was wakeful, agitated and restless. In the morning she became suddenly maniacal. She seized her child in one arm and a large stone pitcher in the other, vociferating wildly that she would kill anyone that came near her. She kept constantly saying that she could hear people in the adjoining rooms making up their plans to steal her child. When I arrived at the house I found her bed-room door closed and the patient, a strong woman, standing against it. I asked her to let me in, as I had something very important to say to her. Contrary to my expectations, she went back from the door, when I walked in. She shouted to me not to come near her, or she would kill me with the pitcher. Believing that, as a rule, maniacs are cowards, and that there is usually more cry than wolf, I went up to her and took the pitcher from her. I then freed the child from the other arm, laying it on the bed. The mother then gave vent to wild crying. She was ordered chloral, gr. xx.; pot. bromide, gr. xxx.; to be repeated, if necessary, in an hour. The child was at once taken off the breast, the patient was secluded, well fed and a very large amount of sleep obtained by means of a chloral, digitalis and hyposciamine mixture. She remained actively maniacal for a little over two weeks, with hallucinations of hearing and the delusion that her child would be stolen. She suddenly got well. Since that date she has continued having epileptic attacks, but has had no return of the mania, after a lapse of over five years.

CASE XII.—This case is also an example of puerperal insanity. The patient regarded her coming confinement with much anxiety and worried greatly about it. She was in her twenty-second year and this her first child. I found it necessary to give her chloroform and apply the forceps. She did well for the first three days. There then developed a little febrile disturbance, the temperature rising to 102. The use of the douche speedily corrected this, and by the end of the first week, the temperature was again normal. On the eighth day she began to wander, and talk foolishly. She became wakeful and extremely suspicious, but had no positive dislikes. She had halluci-

nations of hearing only. She had a great many delusions, and these were continually changing. At one time she would think she was a wax figure; at another time, a mass of ice; at another, that she was dead, and so on. She was never loud in her ramblings, but was very restless in bed, and was constantly tossing the clothes off. She was very obscene in her language. She was constantly confusing people, and would take her mother to be her sister, or myself for her husband. She had a great aversion to food, claiming there was no use feeding a dead, or a spiritual body. She was very pale and anæmic. Her insanity lasted five weeks and gradually faded away. She was treated with iron, quinine and strychnine tonics, with chloral, strychnine and hyoscamine, to procure abundance of sleep. She was rigorously secluded; was given mild massage and a maximum amount of nourishment, consisting of milk, broths, eggs, oysters, meat extract made by the cold method, and farinaceous food of mixed wheat, oats and barley meals. This case was very similar to those described by Wood under the caption of "Confusional Insanity." One aunt had been insane.

CASE XIII.—I shall now record an interesting case of mania. The patient was a girl in her eighteenth year. She was very small and delicate. About two months before the commencement of her insanity she had a slight attack of hysteria; one month later a partial attack of catalepsy. Up to this time she had never menstruated. She was pale and anæmic. She suddenly became sleepless, very restless, began to work around the house in a most incessant manner. Her nose bled a little once and she complained of severe headache. At this critical moment she menstruated. There was decided dysmenorrhea. She began talking, laughing and gesticulating constantly. When I saw the patient in the evening, she had hallucinations of both sight and hearing. She was hearing and seeing angels, etc. Her memory was affected, as she could recall events with difficulty, and was often quite wrong. She had an endless variety of delusions. She thought it was poison she had taken that made her back ache. She thought she was in heaven, that she was wealthy, that she could fly like an angel, that she had a mission to save the world. She was very restless, obstinate, refused food, would shout and sing, weep, laugh and talk by turns. She would bury

her head in the bed at one moment and then sit erect with outstretched arms to the Saviour the next. The pulse was 120; the temperature, 101.2; the tongue was clean but red. The elevation of body heat lasted two weeks. There was no reason to suspect any specific febrile state. Her whole mental condition was one of great incoherence. In this case we have a good example of mania, the attack being precipitated on a weakly, neurotic girl, by the appearance of the menstrual flow. Seclusion, rest, careful feeding, massage and tonics for a period of five months effected a cure of the attack. To obtain sleep chloral, hyoscyamine and paraldehyde were employed, the dosage of each varying as was deemed advisable.

CASE XIV.—A young man, aged 22. He had passed through a rather severe attack of typhoid fever. During convalescence he began to have delusions. He thought he had some fast horses that had won all the great stakes. In this way he came to be extremely wealthy. He promised me a check of sixty thousand dollars for my attendance. He had no hallucinations. His mind was greatly confused on every topic. To the simplest question he had to hesitate a long time for an answer. He was very pale and the heart's action weak. He frequently fancied he was away from home. His condition was one of dementia with delusions. Mild as the attack appeared it was five months before he returned to his occupation.

CASE XV.—A female, aged 29; also a case of typhoid fever. Just as convalescence was beginning there formed a very large abscess under the left gluteus maximus muscle. She was extremely nervous about having it opened. It was freely incised and washed with iodine water. By the day following she was wild and excited, very noisy and abusive. Her language became very obscene, and she would throw at her attendants anything she could seize. She was very sleepless. For this I ordered chloral and alcoholic stimulants. Taking the view of these cases that sleep is a necessity, and that if you begin with a narcotic, you must push on till the object is attained, I gave her chloral, gr. xx.; tr. digitalis, *m. v.*; hyoscyamine, gr. $\frac{1}{16}$: every hour till sleep was obtained. She fell asleep after the third dose and slept for six hours. She was well-nourished, kept absolutely quiet and com-

pletely controlled by the chloral, alone or combined for a few days. Her delusions had disappeared by the end of the fourth week. She steadily recovered.

CASE XVI.—A young woman, aged 25; was hysterical. No history in the family of insanity. She had an attack of typhoid fever complicated with pneumonia. During the course of the disease she was very noisy and maniacal; would refuse food or spit it out of her mouth, but by persistent effort she would yield. She recovered her physical health, but remained eccentric. Two months afterwards she broke out suddenly into an attack of acute mania, becoming very noisy, restless, violent, foul in talk and sleepless. For one week a great deal of sleep was secured by pushing the hyoscyamine freely. She was then treated by rest, feeding, massage, seclusion, tonics and paraldehyde. She is not yet quite recovered but is quietly doing housework, is neat in her dress and civil in language. This case may make a perfect recovery, but I am not too sanguine.

CASE XVII.—This attack followed typhoid fever. The patient, aged 53, had typhoid fever eighteen years ago. The second attack was very severe. As he recovered from the fever he became possessed of the most varied delusions imaginable. He thought he was two distinct persons—the one well, the other ill. He had also discovered a gold mine that yielded pure molten gold, in such quantities that he was wealthier than the Bank of England. He often fancied he had a person in bed with him. He had some enormous contracts on hand, and he had hundreds employed daily dispensing charities. He often believed he was away from home. These delusions faded away gradually: the last to go was that of a grand residence he had purchased. It was fully six weeks from the subsidence of the fever till his recovery from the post-febrile insanity. During the greater part of this time he was going about his house. The events that occurred during the first three weeks of the insanity were absolutely forgotten. He had no remembrance of a visit from his brother-in-law, a doctor, who stayed three days with him. His nurse was changed during this same period. Of this he remembered nothing.

The above few cases may prove interesting, as they,

along with those reported by other writers, enable us to form a general idea of the different forms of insanity that occur in connection with, or follow, diseases, injuries, operations, anæsthetics, parturition, etc. The form of the insanity may vary very much. It may be that of mania, melancholia, dementia, or a combination of these different forms. As the insanity is frequently associated with a weakened and exhausted condition of the body, the mental disturbance often takes on the character of confusion of thought, and dementia. As a part of the bodily weakness there is mental weakness, timidity and fear.

With regard to the name employed for such cases, I am strongly of the opinion that no one term can be adopted to cover all the forms. The term *Typhomania*, suggested in 1849, by Brierre, is applicable only to those cases of mania of a muttering type, where there is febrile movement, brown tongue, sordes on the teeth and non-aggressive delirium. The name *Confusional Insanity*, introduced by Wood, is objectionable, like *Typhomania*, as it is a clinical term and refers to the leading feature of the mental disturbance, that of mixed or confused ideation. It could be made to fit on to many cases that do not follow fevers, injuries or operations; and some of those, that are so caused, do not present simple confusion of thought as their leading feature. Mania, melancholia and dementia, are well-recognized clinical groups, under which it is possible to arrange every case of insanity. It therefore seems to me unnecessary to start up new terms of a purely clinical nature. On the other hand, the use of such terms as puerperal insanity, post-febrile insanity, post-operative insanity, the insanity following anæsthetics and injuries, are merely etiological. Every case of insanity must have a cause; and so, according to the view taken by the particular observer in any given case, the attack might be called toxic, pregnancy, alcoholic, puerperal, exhaustion or operative, as any one of these or other causes, seemed to be the main excitant. While such terms give us no real notion as to the

form, or pathology, of any particular case, they are not without a usefulness in speaking of these cases. The insanity might be puerperal in etiology; but clinically it might be maniacal, melancholic, dementic or confusional. In like manner the same would hold good in those attacks following alcoholism, operations, injuries and diseases. One case of insanity after alcoholic excesses may be wild mania; another, low muttering delirium; and a third, melancholia. Then again, these forms may, and do, alternate with each other in the same person. Holding fast to the position that all forms of insanity can be classified under the states of mental excitement or mania, mental depression or melancholia, mental weakness or dementia, I would regard typhomania of the various writers as mania, with marked physical exhaustion, phrenitis or some other masked affection; and confusional insanity, as a variety of dementia, due to exhaustion of the brain, or as a mixture of mania and dementia from excitement of the lower centers and weakness of the higher.

The pathology of those cases of insanity following acute diseases, etc., has long been a *proelii campus*. With all who claim any one special pathology I at once take issue. H. C. Wood contends that these cases are due to an exhausted condition of the nerve centers. He contends that, on etiological and symptomatic grounds, these cases are all of a similar nature and have a similar pathology. This cannot be granted. Some of these cases of insanity are no doubt due to this exhaustion, but by no means all of them. So able an authority as T. S. Clouston contends that in puerperal cases a large portion of them is due to toxic conditions of the blood. This opinion is also expressed by Olshausen (*Zeit. f. Geb. n. Gyn.*, B. XXI., No. 2). He divides puerperal psychoses into: 1, Those after septic conditions, the infection psychoses; 2, Exhaustion psychoses, as those after *post-partum* hemorrhage and during lactation; and 3, Intoxication psychoses, such as those following eclampsia, when there is uræmia or some other impurity of blood. To approach

a subject without bias or preconceived opinion that must be proven, often enables us to reach the truth. The etiology of insanity following acute diseases, operations, anæsthetics, parturitions and injuries, is very different and varied. In one, there is in the system some poison of specific germ formation; in another, the poison is not specific in character, such as that of chloroform or uræmia; in others again the condition is one of profound exhaustion from fright, shock and the loss of blood, as in injuries and operations; in some, there may be a meningitis, as would possibly occur in syphilis and acute rheumatism; and still again there may be a phrenitis or periencephalitis as the result of irritation to the cortex of the brain from some product of morbid character circulating in the blood. But complicated as this view of these cases may seem to render the pathology it does not contain the entire problem we have to deal with. In the case of typhoid fever, for example, we have, on the one hand, an exhausted condition of the nervous centers; on the other, a poisoned one. In a case of puerperal mania there may be several pathological factors at work, as an exhausted physical condition, absorption of septic matter and a phrenitis due to the action of this morbid material. So in a case where chloroform has been administered and an operation performed, the higher and inhibitory centers may have been weakened by the anæsthetic, while the lower centers are increased in activity or stimulated by the emotion and excitement that accompany such proceedings. The damage done to the cerebral tissue may be, indeed often is, of such a nature that a recovery takes place. On the other hand, processes of waste, perverted nutrition or atrophy are called into existence that, more or less completely, but permanently, dethrone the reason. In this way the insanity in these cases may be due to one or more of a number of conditions: 1st, There is in some cases a profoundly exhausted state of the nervous centers. 2d, There is in others a *materies morbi* of spe-

cific germ origin. 3d, In some there is a poison but not of specific nature, as in cases following the use of ether or uræmic convulsions. 4th, In some there is a meningitis. 5th, There is undoubtedly a phrenitis in some. 6th, There is a congested hyperæmic and over-active condition of the centers, especially those of the emotional side of the nervous economy in a certain number of others. In all this, however, we have nothing new, and on pathological as well as clinical grounds, I contend that the various forms of insanity following operations, confinements, fevers, anæsthetics and such like, do not constitute a new class or classes. I claim that there is no good reason for any additions to the forms already recognized, nor to impose any new terms to our heavily burdened system of classification.

The prognosis of cases of insanity following the conditions we are discussing is not altogether gloomy. Judging by the cases I have been able to collect and the results of my own, a rather hopeful view of many of these attacks may very reasonably be entertained. Various estimates have been made to show the proportion of those cases that recover. Contrary to what may be held by many, I venture the assertion that when the insanity is not the result of organic disease, it is among the most amenable to treatment of the many morbid conditions with which we meet. The pessimistic view with which insanity has been so often regarded has had a very paralyzing effect on the vigor and energy with which treatment should be pursued. With the words of Gowers, "that the character of cerebral processes in some way determines the character of mental processes," all must agree. The notion that there can exist a system of psychological medicine apart from the physical derangements underlying mental operations is a figment, a myth. When we take the view of delusions, hallucinations and illusions, that we have come to take of pathological processes generally, we will soon be able to convince ourselves that there is nothing new in them, but only a

derangement of natural states. The delusions of the insane are acquired and used in exactly the same manner as the normal ideas of the sane, but the former are planted on a diseased brain, the latter on a healthy brain. Diseases, with mind symptoms, are clearly the work of the general physician to watch over and to treat. Were this great principle recognized and all forms of mental aberration early and well-treated at home, there would not be so many incurable victims of insanity in the wards of our asylums. The prognosis of insanity, not due to organic disease, is good. Many cases that, at first, appear almost hopeless, ultimately do well. As it often requires both time and care to decide whether there is organic disease in any given case or not, I contend that we ought to exercise extreme caution before recommending the removal of the patient to an asylum. One thing we should never forget that we all learn from our environments. In the diseased and abnormal conditions found in the brains of cases of incipient insanity there is a marked readiness to be affected adversely by unsuitable surroundings. No doubt many temporary mental derangements are rendered permanent, or new delusions spring into existence by mixing with the insane at a time when the brain has lost its normal balance.

With regard to treatment you have no doubt guessed from what has just been said that I would advise home treatment. Most assuredly that is the position I take. Many a chance of recovery, I think, is lost by a too precipitate removal to an asylum. There are few who are so insane as not to take in their surroundings to some extent. In the event of a recovery taking place we can readily see the reasons why it would have been better had asylum restraint not been resorted to.

The next point in the treatment of all cases of this kind is to begin the attendance upon the patient with the full determination to win. Be ever careful, kind, firm, persevering and patient. An insane person is something like a child, in the fact that you should never approach

him with an air of suspicion or mistrust. To succeed you must gain his confidence, and to gain his confidence you must be frank and honest. Never, on any account, make remarks about the condition of the insanity or its outlook in the hearing of the patient. If there is anything that is likely to prove injurious to one whose mind is affected, it is the habit of carrying on a conversation in undertones in the same room. Persons that have been insane will often mention things they heard, while ill, on their recovery, though not suspected of paying any attention to what was transpiring.

A question that always must claim our closest care is to secure for these unfortunate sufferers a good deal of sleep. To the old idea that mania had a course, it would run through, in spite of drugs or other remedial measures, I take exception. The course of mania can often be modified and cut short by judicious treatment. It requires some discrimination. The use of bromides in these cases I do not like. There is often much bodily and cerebral exhaustion, and the bromides certainly make these worse. Chloral is a very valuable drug. It does not have the same depressing after-effects of the bromides. This drug may be given in doses of gr. xx. every hour or so if required. I am in the habit of combining the chloral with digitalis. Another drug of especial value is hyoscyamine. Although a good deal has been written upon this agent, it has not yet received the full recognition at the hands of physicians that its merits demand. I usually give gr. $\frac{1}{16}$ hypodermically, and repeat as often as the circumstances of the case seem to demand thereafter. Chloral and hyoscyamine should not be continued over too lengthy a period. One or two weeks, I think, is a fair trial, and especially is this true of chloral. In a case of acute mania with pronounced insomnia, I have given chloral, gr. xx.; digitalis, *m. v.*; hyoscyamine, gr. $\frac{1}{16}$ every hour till sleep was induced. In cases of wakefulness, acute elevated temperature and cerebral hyperæmia, it is good practice to raise the head of the

bedstead one foot or eighteen inches. Paraldehyde is a hypnotic of very considerable value. It often has to be given in large doses, and I do not believe any harm would come from a dose as large as half an ounce, or sixty minims every hour till sleep is obtained, I would regard as quite safe. This drug often fails, because it is not used with a free enough hand. Dr. J. E. Graham, of Toronto, recently mentioned the case of a druggist, who took one ounce without bad effects. Sulphonal, in doses of gr. xxx., is very useful in cases where there has been intemperance and there is delirium tremens. S. Wilks and H. Arnot have recently urged that alcohol in large doses is a powerful narcotic. This view I entirely endorse. I am of opinion that this is one of our best agents in puerperal mania. From four to eight ounces of brandy or whiskey, in the course of twenty-four hours, have succeeded in relieving severe insomnia. I would recommend a trial in properly selected cases. No matter how difficult it may be to secure sleep in any given attack, press boldly on; and, once sleep has been secured, maintain a full allowance for a limited period.

Seclusion and rest are two important factors in the treatment of all cases of insanity in the early stages. The foolish remarks of friends and visitors are often extremely harmful, and ought to be interdicted. The value of a mild course of massage cannot be over-estimated. The nutrition of the brain is intimately bound up with that of the rest of the body. As the general bodily vigor returns, the delusions, in a majority of the cases, fade away.

The suggestion of H. C. Wood, that the warmth of the body should be well maintained in all those cases where it tends to be subnormal, is a good one. In one of my cases the temperature sometimes fell 2° below normal.

The feeding of these cases must be carefully looked into. The directions on this subject should be clear and specific. Milk, eggs, meat extracts, oysters, fish and

farinaceous preparations are the main articles to be relied upon. The refusal of the patient to take food must not always be accepted. I have frequently seen insane persons refuse food, and by quietly but steadily persisting after a short time drink down a glass of milk. To succeed well in feeding the insane, the aid of a skilled nurse should be employed. Very rarely do such patients take food well from relatives.

As to drugs, tonics are of very much service. For the anæmia, I do not personally like the tincture of iron, except in septic cases. My own opinion is, that in these extremely anæmic cases, with insanity, after fevers, blood loss, etc., our reliance ought to be placed in a freshly-made carbonate of iron and give it in doses of gr. xxx. to gr. xl., four times daily. Strychnine, arsenic, quinine and phosphorus may all be tried.

In cases of weak heart-action, where there is also a loss of arterial tone, so that when the person lies down the cerebral vessels become dilated and the brain burdened with stagnant blood, I have derived much benefit from a mixture containing digitalis, ergot, belladonna and strychnine. In those other cases, the very opposite to the above, with cerebral anæmia, the same agents act equally well, by giving tone to the circulatory apparatus and regulating alike the blood supply and the blood pressure.

I here offer a suggestion on another matter: In all cases of acute mania, with cerebral hyperæmia and continued insomnia, marked improvement, or even convalescence, may be obtained or established by giving a dose of calomel, gr. x. and ol. crotonis *m* i. This may be repeated, if required. Some examples of severe hysteria, insomnia, status epilepticus and allied conditions will disappear at once with this treatment.

In all cases of insomnia, one of the most important questions to keep before our eyes is that the abdominal viscera are almost invariably anæmic. To get a larger supply of blood to these organs does good in several

ways—by relieving the brain, by aiding the digestion and by increasing the activity of elimination. For these reasons I have been in the habit of keeping the bowels warm. A flannel bandage or dress-makers' cotton-wool, impregnated with dry mustard or some other rubefacient, answers the purpose very well. In one very troublesome case, where there was great mental depression, I used the warm-water coil on the abdomen, the patient deriving from its use very decided benefit. The wet pack should be tried on occasion of excitement.

A word or two on opium may not be out of place. There is a fear in the minds of many that opium should not be used in many of these cases of insanity. I must confess I do not share this fear. In cases of acute mania no harm can come from the use of opium to gain time and procure some needed sleep. The opium may be combined with other hypnotics, it is true, and with the effect of improving the certainty of its action. The two conditions in which I would specially recommend the use of opium are: 1st, Mania with rapid loss of weight and a bounding pulse; and, 2d, Intense melancholia, with small, hard pulse, high arterial tension and dilated pupils. That there are sensory centers in the brain is beyond a doubt. These centers may be so deranged as to cause abnormal sensations, or even pain. I am sure that some of the cases of psychalgia are of this nature and would be best eased by opium in some form.

In the language of Horace, *festina lente*—"Be sure you are right and then go straight ahead." One last word: Pray do not substitute the insanity of drugs for the insanity of disease. I beg of all to use great care not to establish the habit of taking hypnotics among your patients.

Medical Manhood and Methods of Professional Success.

VALEDICTORY ADDRESS BEFORE THE GRADUATING CLASS
OF THE MARION-SIMS COLLEGE OF MEDICINE,
AT ST. LOUIS, APRIL 25, 1892.

By C. H. HUGHES, M. D., St. Louis,

Late Professor of Neurology, Psychiatry and Electrotherapy, now President of
Barnes Medical College.

TO-NIGHT you conclude your curriculum and commence your life's career as physicians. But only your preparatory study ends to-night, not your pupilage. That must go on while you live. Thus far you have done well and your *alma mater*, in recognition of your acquirements and appreciating your moral merits, has to-night bestown upon you your well-earned laurels. For the past three years (and especially during the last eight months of your course) you have toiled faithfully, zealously, nobly; but if your study stops now, your energy fails, or your zeal ends here, the life before you will be an ignoble one; your work up to this hour will have been fruitless and life a failure—not worth living.

I congratulate you on your auspicious entrance into the profession. You could not have decided upon a more opportune period in its history for efficient service to mankind or for satisfactory work to yourselves. This is the electric and dynamite age of the world—its time of greatest light and power. You enter the profession at an epoch of most remarkable advancement—an era of grand discovery and magnificent achievement for the glory and honor of medicine and the happiness of the race; a period when the microscope has achieved for medicine what the telescope has accomplished for astronomy, revealing in that grand cosmos of the infinitely minute beyond the

reach of unaided human vision, myriads of hitherto unknown existences and laws of physiological and pathological motion; when chemistry has done her almost perfect work and biology makes a pathway plain and clear through much of the *terra incognita* of the physiology of the recent past; and pathology, clinical medicine and therapeutics have kept equal pace with the electric light illumination that has so lately been thrown upon all physical science.

A new world of bacteriological and micrococcic life has been revealed to the pathologist, a new meaning has been given to the term microcosm by modern medical research. It means to the physician a great world of infinitely minute beings—microscopic pigmies in size and form but giants in power to destroy, whose name is legion—the microcosm of the lens. When the history of this world beyond the ken of normal vision shall have been fully revealed, no fiction of Jules Verne will equal it in wondrous revelation. Many things, therefore, which the profession a generation or two before us saw but dimly and did imperfectly, we now see clearly and do with precision. The defective and incomplete methods of research and therapeutic resource of the fathers have given place to clearer vision in diagnosis and greater precision in practice. The endoscope, the test tube and the crucible of the chemist, supplement this wondrous illumination of the way over which our ancestors groped in darkness. Antisepsis and the newer therapeutics have made dangerous pathways safe to the surgeon and averted the untoward endings of many formerly fatal diseases. They have made once painful surgical procedures painless and rendered many hitherto toxic processes harmless, while preventive medicine puts back the oncoming pestilence. Medicine, as it never stood before, now stands between the people and the pestilence, “and the plague is stayed.” The people dwell at home in security and flee no more from many of the scourges of the past, because our profession has found out methods to successfully combat them.

To you, gentlemen, belongs the proud honor of falling into line of battle with the Grand Army of Medicine while it is making this forward movement towards its grandest achievements. Foes fall before it that once appalled the profession and baffled its greatest chieftains. Other foes of human health and life are destined in your day (and perhaps yet in mine) to surrender to our blows for humanity's cause. The science and art of medicine all along the line are achieving wonderful victories for the welfare of mankind against the enemies of his health. In the glory of this conquest of the closing century you are to be sharers—all of you if you will—and the names of some of you are destined, if you but will it so and work with a will to that end, to become renowned as those of great physicians and immortal human benefactors.

Lives of great men all remind us
We may make our lives sublime,
And departing, leave behind us
Footprints on the sands of time.
* * * * *

I charge you then to

Be up and doing,
With a heart for every fate,
Still achieving, still pursuing,
Learn to labor and to wait.

Yes, to labor and to wait. *Labor et patientia.* In this sign you shall surely conquer in the battle of life before you. In these and other lines of Longfellow's "Psalm of Life" we have the reminder of the example of the great before us for our emulation and advancement and of the influence of our own example in turn upon the lives of those who are to come after us in the profession; the fruition that follows faith, hope, courage—the stuff that all true men are made of—and fidelity to duty and conscience, without which no man can be a true physician.

They wove bright fables in the days of old
When Reason borrowed Fancy's painted wings,
And Truth's clear river flowed o'er sands of gold
And told in song its high and mystic things.

It is not so now. Though our ancestors in medicine saw many things as through a glass, darkly, and imagination sufficed and supplanted investigation, the modern physician is a student of fact and a diligent searcher after the unembellished truths of medical science, and these truths are "stranger than fiction."

Hitzig's and Ferrier's cerebral localizations, Championere's cranial topography, Macewen's and Horsely's surgical achievements, the autopsic verifications of others and the spinal differentiations of Seguin and his colleagues, have given remarkable exactness to the topical diagnosis of brain and spinal cord disease, so that neurology, with the aid of surgery, now locates and removes a blood-clot, spicula of bone or morbid growth, or empties a pus sac embarrassing, irritating or paralyzing a speech, arm, leg or other psycho-motor center in the brain; and the spinal cord may be penetrated in the same way for the relief of certain of its focal lesions, while deep-seated ganglia, like Gasser's, are cut out for the relief of intractable neuralgias.

Indeed so great have been the recent advances in physio-anatomical knowledge of not long ago unknown localities and functions, and the perfection of surgical technique, that the timidity of some and the conservatism of others, of the older surgeons in regard to operating within the cavities of the body has been replaced by an operative temerity that even now demands some repression in the light of clinical experience as to the sequences of certain surgical procedures. The annals of modern surgery in general give us records of unprecedented audacity with the knife. Scarcely any organ of the body escapes its saving or destructive touch. By a chemical process Senn searches for and sews up a severed bowel; Billroth exsects a stomach; German surgery extirpates a larynx and mechanical ingenuity

replaces it with a pretty fair substitute. The lung has even been pared away under certain circumstances without causing the death of the patient, while hysterectomy, splenectomy, nephrectomy, oöphorectomy, intestinal exsection, and the removal of the pelvic viscera generally are, some of them, common and others are not so frequent, but no longer impossible operations. So that the young graduate with surgical aspirations and eager for speedy fame has now rather to be cautioned as to when not to operate—cautioned to proceed with a conservative regard for his patients and to study and employ the milder means of relief before employing that last resort of the true physician, the total ablation of an important organ. In regard to all of these brilliant capital operations which some of you are or will be skilled and anxious to perform, I enjoin the golden rule, "Whatsoever you would that others should do unto you," under similar circumstances, "do you even so to them." No less, no more.

Virchow, Brown-Séquard, Charcot and Weir Mitchell, Hammond, Meynert, Nothnagel, Fleschsig, Wernicke, Munk, Exner and others still diligently at work, have made, up to the present time, contributions to pathology, physiology and neurological and clinical medicine generally, nor before surpassed in the history of the profession's progress, while Pasteur, Formad, Thomassi-Crudelli, Lavarán, Sternberg, Salisbury, Schmidt and others have found the light in pathology and bacteriology for which our fathers hoped, but sought in vain.

Asiatic cholera and yellow fever are held at bay in their native lairs. The exact nature of that once deadly mystery, malaria, whose name confesses the ignorances of Watson and others of our not remote predecessors as to its real nature, is now known. Puerperal fever, eclampsia and the autotoxic diseases generally are being unraveled. The pathological mystery of phthisis, tetanus, diphtheria, etc., are solved. That *opprobrium medicorum* of the past—epilepsy—is now a manageable disease, and rheumatism has become almost as tractable as a common

cold, if it were not for its unfortunate tendency to constantly recur. Skin and bone are now transplanted and made to grow on dermal soil once too barren for their sustenance, and arteries are ligated and intestines sutured with animal fiber. The abdominal and thoracic cavities are no longer forbidden ground to surgical interference. Laparotomy is triumphant. Penetrating wounds of these regions are no longer sealed and their unfortunate victims left to the tender mercies of fate and the *vis medicatrix nature*.

You have been taught the nature and differentiation of nervous conditions, but it has not been long since to be nervous was to be simply indefinitely miserable to the physician, and grave neuropathic conditions which are now well known, had no certain pathology and received no treatment.

Within comparatively a few years syringomyelia, acromegaly, exophthalmic goiter, poliomyelitis anterior, progressive muscular atrophy and its antipodal paralytic condition pseudo-hypertrophic muscular paralysis; posterior, lateral, anterior and postero-lateral spinal sclerosis, peripheral neuro-tabes, polyneuritis and the chronic toxic neuritides generally, athetosis, Landry's paralysis, bulbar paralysis, Friedrich's ataxia, paramyoclonus multiplex, morbus Thomsenii, paresis, paranoia, dipsomania, aphasia, Jacksonian epilepsy, polyneuritis, and too many other diseases of the nervous system—central and peripheral—to be here enumerated, have been diligently studied and accurately differentiated, evidencing astonishing activity in clinical and pathological investigation.

Cardiac, pulmonary, laryngeal and cutaneous affections, surgical and gynecological diseases and those of the eye, ear and every other organ, and many of the fevers are better defined and managed than they were even a few years ago, and scarcely any region or organ of the body is now exempt from surgical resource. Spencer Wells, Lawson Tait and Marion-Sims began their eminent careers and became famous for their work during the last third of this century.

Thus you see the past and the present have bequeathed to you a rich legacy of clinical and pathological knowledge, the accumulation of years of laborious research. What will you add to the scientific heritage? You certainly owe to your medical ancestry and to the world's posterity your best efforts to increase the store of fact you have so freely received.

The knowledge of the physiology of the almost omnipresent nervous and its attendant vascular system has so far advanced that we now appear to be fully familiar with the last factor in the phenomena of that wonderful discovery of the circulation whose initiative was made by Galen and Harvey, namely; that of the neural mechanisms of arteriole control through the vaso-motor and vaso-constrictor nerves. This added to the heart's propulsion, the *vis a tergo*, and the heart's exhaust, the *vis a fronte*, with what we know of the impressibility of the intracardiac ganglia of Ludwig, Remak and Bidder and of the regulating vagus and cardiac inhibitory nerve influence, gives to our knowledge of the circulation of the blood, the appearance of the finality of a complete discovery.

New views of the function of the cerebellum in its relation to the cerebrum, at variance with the views of Flourens long accepted by the profession, have been advanced even pending your pupillage, notably those of Luciani, whose studies in the normal and pathological physiology of this important organ I commend to your consideration. In fact, Luciani, as his accomplished reviewer, Seppilli, asserts, has destroyed Flourens's theory and assigned to the cerebellum trophic functions like those of the ganglia of the great sympathetic. The balancing power or equilibrating function of this organ seems, according to Luciani's exhaustive researches, to be secondary to cerebellar tonicity.

According to this eminent and most recent Italian investigator, three classes of phenomena characterize the healthy functioning of the cerebellum, viz., sthenic, tonic

and static neuro-muscular power, while damage to the cerebellum sufficient to destroy its function, causes asthenic, atonic and astatic neuro-muscular phenomena, and besides, his conclusions are in the direction of the functional unity of action of this organ, contrary to the views of Nothnagel. The theory of Flourens has been assailed in a different manner by Tolet, he giving to the cerebellum function of psychical sensibility.

How truly, then, can I cordially congratulate you, gentlemen, on the present auspicious beginning of your life work.

You have, by diligent industry and zealous endeavor, placed yourselves abreast of this wonderful progress the profession has been making, even some of it since you commenced your studies.

Omens of work already done give hopeful augury of a yet more victorious future. But you still have work before you and much of it in contributing to unfold the yet unraveled mysteries of medicine. The present epidemic of influenza will claim your study, as it is engaging professional attention almost throughout the world, as a toxic neurosis and the nature of the *grippe* toxine, as a poison of the nervous system, whether microbic or otherwise, is being closely investigated and will demand your attention. Even while I write, this subject is being elucidated by Babes, Pfeffer and Canon, and some of you may make perfectly plain this and other unsolved problems to the final satisfaction of the scientific world. Why not? What man has done man may do. What graduates of other colleges have done the graduates of this school may do. Any of you may become great, if you will, and be benefactors of your race and have your names enrolled high on the keystone of "Fame's triumphal arch." Mayhap some of you may be accounted by posterity as among the "few immortal names that were not born to die." At all events, it will not harm you if you strive for a place in history with the Türcks, Wallers, Hunters, Harveys, Ferriers, or the Jenners, Gross' or

Flints. Aim for the top even though you may not be able to climb beyond the middle rounds of the ladder of Fame.

The best calling in life is that which, after contributing sustenance to the worker, bestows the most good upon mankind. That calling is Medicine. It cares for the body of man and fits its tenant, the soul, for all the duties and demands of life. *Mens sana in corpore sano* is a maxim handed down to us from the ancient masters.

Without disparaging other professions or occupations, it cannot be disputed that the practice and teaching of the medical art is the highest of benefactions. It is the greatest of charities as it is the noblest of human callings. The ministry of love was the life-work of the Divine Master, for though He began His mission as a carpenter and loved to dispute, as a boy, with the philosophers in the temple, He concluded His career as a physician of both body and soul, and went about healing the sick and doing good. He was the Great Physician.

The greatest and mightiest word that ever proceeded from the mouth of God or His Apostles was "charity"—the fatherly love of God and the fraternal charity of man. St. Paul pronounced charity the highest of the virtues, and one of the sweetest-minded of the Apostles was Luke, the good physician. The two professions that practice true charity more than all others are those of Medicine and Divinity, and in them the physician and the divine go hand-in-hand. There are no two of the callings of men so closely allied in their work. That true charity which considers in every aspect the welfare of our fellows, brings the doctor of divinity and the doctor of medicine close together. It was the appreciation of the true charity of our noble profession that caused Cicero to regard the physician as near the gods.*

With the highest human sanction and the Divine

* "Homines ad deos nulla re proprias accedunt quam salutem hominibus dando."

example, I commend to you the practice of charity. It will do you good all the days of your life as well as those who may be the recipients of your ministrations.

It falleth like the gentle rain
Upon the place beneath,
And is twice blessed ;
It blesseth him that gives
And him that takes.

The study of the physician includes the moral as well as the physical well-being of man, for the purity of the soul has much to do with the health of the body. The purity of the heart and the dominance of the body by principles of rectitude has much to do with the health and consequent happiness of present and succeeding generations. The direct and hereditarily entailed diseases which are the offspring of sin, and *vice versa*, which have filled and are filling the land with misery and woe, both physician and divine are alike especially interested in preventing. The psychology of sin and the pathology of crime are studies alike for doctor and divine.

The man who is sick in his soul is seldom well in his body, and the soul's affairs do not prosper well when the body is disordered.

Like the divine, the physician may also aid in healing "the wounded in spirit and the broken-hearted," and in "binding up their wounds." He may "minister to a mind diseased," and "with sweet oblivion's antidote cleanse the stuffed bosom of that perilous stuff which weighs upon the heart." He does this effectually through the modern successful management of melancholia.

Besides the bedside treatment of disease, therefore, your calling is one of the noblest and most indispensable of the avocations of men. You sustain a most intimate relation to the people in their "hours of ease" and freedom from the presence of plainly perceptible disease. The populace is never free from the present or antecedent impress of disease upon their bodies and minds.

Its active potency in preceding generations impresses itself upon the psychological character and physical power of nations as well as individuals. They rise or fall in physical prowess or moral greatness through the sanitary or unsanitary influences which promote or arrest the development or blast the life of the primordial cell, and individuals, singly or in aggregate, grow into giant grandeur or dwarf to pigmy insignificance—psychical or physical—as their physiological or pathological environment and organic antecedents permit and ordain.

This is a fact which medicine has established. This is what our profession has to teach all the people. It is the importance of medical research to the people's welfare that has led to the demand of the profession generally for higher medical education and of the American Medical Association for a National Health Department and a physician in the Cabinet, and some of you will live to see this much-needed advance accomplished. Some among you may even fill that important position. When this consummation of the people's highest welfare, "so devoutly to be wished," shall have been accomplished, then will the nation begin to realize what as yet it appreciates but faintly, that the perfection of the human species is possible only through the means supplied and ways pointed out by our profession, a fact long ago indicated by Descartes: "*S'il est possible de perfectionner l'espece humaine, c'est dans Medicine qu'il faut en chercher les Moyens.*"

The problems you will be called on to solve are those of the effects of alcohol and other drink and drug habits and vicious indulgences and the many other devitalizing propensities and passions of our times, teratological defects, insanity, acquired and transmitted, the psychical and physical interrelation of mind and organism, the relationship of organism to mental endowments and imperfections, faulty methods of education, wrong manners of living, improper modes of travel, and some of the unsanitary social customs of the times on the

generation now coming on the stage of life's action, and the entail of these neuropathic, psychical and social vices, manners, customs and habits upon posterity, as well as the more obvious demands of the diseased patients who will personally seek your ministrations and of public and personal hygiene.

You are to be sanitarians in the broadest sense of the term; educators of the people in the chief essentials of their temporal if not spiritual welfare.

The physical and psychical sanitation of the nation is in the hands of its physicians. They are the prophets whose precepts wisely accepted and practiced by the people, will save the nation from that inevitable decadence which must attend in the future, as it has in the past, on failure to follow the true teachings of sanitary science of body and mind.

Your avocation has in it, as you see, an element of the highest patriotism.

A wise physician, skilled our wounds to heal,
Is more than armies to the public weal.

Aim high then and nobly and persevere. "Let all the ends thou aim'st at be thy God's and Truth's." Then if thou fallest, "thou shalt fall a blessed martyr." But you will not fail. And here let me recall the inspiring rejoinder of that great cardinal of France to the timid youth who ventured to suggest the possibility of a misadventure:

In that bright lexicon of youth,
Where Fate holds forth the promise
Of a glorious manhood,
There's no such word as fail.

There should be no such word in your dictionary. Be brave, be true and persevere. Train your courage by careful study of your capabilities and defects, your adaptabilities and powers. Though pluck is a plant whose seed is in the nature, it improves by cultivation. Cultivate your courage, train your powers. *Perseverentia*

omnia vincit, Labor omnia vincit, are old and true working maxims for youth and age. In the conflict of life, as in physical conflict, "the battle is not to the strong alone, but to the brave, the vigilant, the active," and I am convinced from a life of observation, that Providence assists the always courageously true and deserving, and helps to make them strong. This is my faith. Be true in every trial and falter not and you will not fail. You may often fall, but like Anteus of old, you will rise again with renewed strength for the battle of life before you. Courage is an inspiration. Buckle on your armor and never say die. If you must fall, fall as the valiant falls, with face to the foe and defiance on your brow. Such failures are victories. They are triumphs which true courage always brings to the unvanquished soul. The bright ideals and high aspirations of this hour may not all be fully realized. Some of your fondest hopes may be cruelly crushed as you travel toward that unknown fate which awaits every mortal. The true soul is purified in fires of adversity and disciplined by its trials to deeds of greater valor. Some of you may have spent your last dollar and feel depressed and gloomy at the close of your work. To such I would say, Do not despair. Hope! Hope on! Hope ever!

With manly courage, ceaseless endeavor and unfaltering faith, push on and you shall yet see the silver lining to the clouds and the sun finally burst forth to brighten your pathway through life to a glorious future all the more glorious for your trials. After every storm a rainbow of hope and promise skirts the sky of the brave. With faith in steady work and an exalted, honorable ambition as tributary to success, I enjoin you to apply yourself diligently, steadily, systematically and persistently. A moderate amount of work free from all enervating vices and interspersed with adequate recreation for recuperation and the maintenance of your physical vigor, will work a marvel of final success for each of you.

Work with your hands, work with your mind,
 Just as your nature has fitly designed ;
 Build ye a temple, hew out a stone,
 Do ye a work just to call it your own.
 Write out a thought, to brighten the labor
 Of that one who reads—it may be your neighbor.
 Work as each day hastens away,
 Bearing along the grave and the gay ;
 Live out a life of excellent work.

Thus you shall weave for yourselves and mankind "garlands of work to brighten the earth."

And now before concluding, I must remind you that your general as well as your special professional education is not yet complete. It will be your duty in continuing your education to endeavor to give to your minds and bodies "all the force, all the beauty, all the perfection of which they are capable," to cultivate the good, the true and the beautiful in yourselves and in your surroundings. This was Plato's idea of the best education. It has not been improved on since his day. It includes purity of body and mind, cleanliness of heart and soul, virtue, temperance, truthfulness and industry.

I have already advised you to aim high, to work hard, and to persevere. This is a proper ambition but there should be even a higher purpose in life. That purpose is to so discharge one's duty as to deserve not only the approbation of mankind, but to secure the approval of God.

In your ambition to rapidly succeed do not soil your souls with sordid avarice, "nor bend the pregnant hinges of the knee that thrift may follow fawning."

Go forth among men * * * malled
 In the armor of a pure intent.

Do not flatter (the world's)

Rank breath, nor bow
 To its idolatries the patient knee,
 Nor coin (your) cheeks to smiles, nor cry aloud
 In worship of an echo.

While you have a due regard for your personal interests,

so practice your noble calling in the spirit of a generous love for your fellow-man that you may feel at the end of your lives that you have been true to the better elements of your nature. Conform to the dictates of your consciences in everything. Be unfalteringly true to your several convictions of duty. Listen always to that still small voice within, which, if ever faithfully obeyed, will prove your guiding star and compass to a successful and satisfactory career.

In your study of the human organism in health and disease—its growth, development, teratological and morbid entailments, and the effects of habit and environment upon it, you have seen enough to warn you, had you needed the warning of Holy Writ, that “as a man sows, that shall he also reap,” in his moral as in his physical nature.

As there are “sermons in stones, books in the running brooks,” and for our instruction, “good in every thing,” so the wise physician, from his peculiar studies, reads to himself an instructive sermon on rectitude of conduct and right moral and physical living. He knows well the physical and psychical recompenses of right and the retributions of wrong conduct, through the organism’s immutable laws of well or ill being, and it will be your duty to follow the right paths and rightly lead the people. You know also of the automatisms of the mind which grow out of mental repetitions and form habits, that “as a man thinketh in his heart, so is he.” That is, the thoughts he habitually cherishes make his character. This is the law of the inter-related and inter-dependent psychical and physical function of brain and mind; the law of mental habit.

This no preacher of the gospel of the Immaculate Immanuel could better prove to the people than the educated physician.

Finally, in the language of one of America’s greatest statesmen—none other than the great Daniel Webster, let me remind you that, “Professional fame

fades away and dies with all things earthly. Nothing of character is really permanent but virtue and personal worth; these remain. Whatever of excellence is wrought in the soul itself belongs to both worlds. Real goodness doth not attach itself merely to this life. It points to another world. Political or professional reputation cannot last forever; but a conscience void of offense toward God and man is an inheritance for all eternity."

And now I conclude this as I have concluded so many other addresses before you, with a prescription, but this time you are the patient:

R., Amoris Dei	-	-	-	-	-
Amoris patriæ	-	-	-	-	-
Caritatis	-	-	-	-	-
Veritatis	-	-	-	-	-
Diligentiæ	-	-	-	-	-
Fidelitatis, aa	<i>in quantum sine limine.</i>				

Misce. Fiat elixirium cordis pro vitæ.

Signatura: Take daily in sufficient quantity throughout life to make a morally and physically sound and healthy character.

Faithfully follow this prescription, gentlemen, and life to you cannot be a failure. It will be a victory for the soul, serenely confident and hopeful from the satisfying assurance of having faithfully endeavored duty. Follow it and "the blessing of him that is ready to perish will be upon your head." Follow it and you shall have that silent fortitude of spirit and assured peace of mind which ever attend rectitude of intention and consciousness of the right. Follow it and the blessing of the honest of purpose and of the pure in heart shall reward you and crown the close of your careers on earth. Follow it and you shall have hopes that will not deceive, virtues which are eternal, and the life which never dies.

Luciani on the Cerebellum; New Studies in Normal and Pathological Physiology.*

R E V I E W.

By GUISEPPE SEPPILLI, M. D., Italy.

THIS splendid monograph, in which the illustrious Florentine physiologist has collected the fruit of eight years of work, marks an absolutely new epoch, a true transformation of the doctrine which has until now been the predominating one amongst the hot arguments on the functions of the cerebellum, and is destined, from its great value, to occupy a prominent place among the most pleasing scientific productions of modern physiology. As will be seen from the analysis which we intend to make, Luciani, who has dedicated all the genius and all the enthusiasm of a scientist to the study of an organ so central and so mysterious in its functions, has succeeded by a series of experimental investigations, by patient, assiduous labor and after surmounting the technical difficulties of operation, in overthrowing the old physiological doctrine that the cerebellum was the organ of co-ordination of locomotive movements and also that which governed the maintenance of the body in space, and has laid the foundation of a new theory regarding its functions.

The author commences by relating the operative methods pursued in his experiments, for which he chose as subjects the dog and the monkey as being most nearly related to man.

His researches comprehend three special forms of cerebellar mutilation, viz., the extirpation of (1), the middle lobe; (2), a lateral lobe; and (3), the entire cerebellum.

* With Forty-eight Plates. Florence: Printed by Le Monier, 1891; 320 pages. Translated by Susanna P. Boyle, M. D., C., M., Toronto, from the *Revisita Spirituale*, Vol. XVII, Fascicolo 4, 1891.

Making use of special and well-arranged methods of operation and employing a host of minor precautions, he succeeded in keeping the mutilated animals alive and in studying the course of the subsequent phenomena.

Besides surmounting the difficulties of operation Luciani sought by all the most perfect means to collect the objective phenomena, making a minute analytical examination both of each anomaly of the muscles concurring in the movements of a part, the attitude of the body and the normal modes of association and succession of the different movements. For this purpose he studied by special methods and with the aid of some simple contrivances, dynamometry, muscular tone, the mode of accomplishment of contraction, the symmetry of the movements on the two sides of the body, the co-ordination of all four limbs in walking, and the traces of the footsteps; and all with a view to elucidating and recording many of those elements which concur in that complex phenomenon which we call, generally, *cerebellar ataxia*.

The phenomena following partial or complete removal of the cerebellum are divided by the author, according to their nature and origin, into five classes:

(a) *Irritative Phenomena*, which are due to the altered and exalted functions of those nervous centers with which the cerebellum is in most direct relation anatomically and physiologically.

(b) *Phenomena of Deficiency*, depending on deficient, unequal or absent cerebellar innervation.

(c) *Phenomena of Compensation*, determined both by those portions of the cerebellum left after the operation and by the other encephalic centers.

(d) *Degenerative Phenomena*, which depend on sclerosis of the nervous paths and centers over which the cerebellum exercises a decided trophic influence.

(e) *Dystrophic Phenomena*, represented by general and local alterations in nutrition, probably indirect and not necessarily consequent effects of the diminished or absent cerebellar innervation.

The author, proceeding from more simple to more complex cases, first gives the *effects of division into two lateral halves of the cerebellum*. In animals so operated on, there was an absence of irritative phenomena, but, on the other hand, those of deficiency were marked. The latter consist in the employment of less than normal energy in the performance of ordinary voluntary acts (*asthenia*), in a diminished tension of the muscles in repose (*muscular atony*), and in a diminished steadiness of the muscles; hence tremors, oscillations, titubation or uncertainty of movement (*astasia*). Besides these, degenerative, compensatory and dystrophic phenomena were not lacking. The author, from an examination of results obtained from this first series of experiments, concludes that the cerebellum is a physiologically unique organ, in that each half of it is in functional relation, not only with the corresponding side of the body, but in part also with the opposite side.

Effects of the destruction of the middle lobe of the cerebellum.—The irritative phenomena were present for about the first week and were almost exclusively localized in the muscles at the back of the neck and in the fore-limbs (*tonic spasms*), which were produced when the animal desired to perform any voluntary act, and formed a marked impediment to the co-ordination of the muscles. The phenomena of deficiency were shown to be diffused throughout all the muscles in the forms of muscular *asthenia*, *atony* and *astasia*, but were more manifest in the hind limbs. In none of the animals were the phenomena of functional compensation lacking, nor those peculiar movements destined for the maintenance of the equilibrium. The assemblage of disorders consecutive to the mutilation of the median lobe of the cerebellum may gradually subside until they become apparently altogether latent, or at least are so slight that they have lost their characteristic features. It does not follow from this that the lateral lobes of the cerebellum have a minor or different importance from that of the middle lobe, in the performance of the functions of the whole organ.

Effects of incomplete unilateral mutilation of cerebellum.—

The operation was performed on the right half of the organ. In all the animals important portions of the right half of the middle lobe were left, and in four dogs the peduncular fasciculi (formed by the aggregation of the three cerebellar peduncles) were amputated at the base or at the point of emergence of the bulb. The assemblage of irritative phenomena was more or less complete in proportion to the degree of mutilation of the peduncular fibers. There was *incurvation of the vertebral axis towards the side operated on* and also *tonic extension of the fore-limbs of the same side*, in dogs in which the peduncular mass had not been amputated at the base. To these were added the phenomena of *rotation from the side injured to the opposite side* and *strabismus in the same direction*, when the peduncles of the dogs had been radically removed. The phenomena of deficiency were asymmetrical, being markedly present on the side of the body operated on. Phenomena of compensation were also present.

Effects of complete unilateral destruction of the cerebellum.

—The author removed the right half of the organ. Taken altogether the phenomena observed correspond almost exactly with those of the preceding case but show a collection of symptoms of more intense coloring, more persistent and prolonged and more eventful. Rotation on the longitudinal axis from the injured to the healthy side was never absent. The phenomena of deficiency were most marked in the muscles of the injured side and were so intense that more than a month after operation the animal was unable to maintain the erect posture or to walk without support. Compensatory and dystrophic phenomena were slightly marked.

Effects of destruction of the median and of a lateral lobe of the cerebellum.—The irritative phenomena were identical with those produced after the extirpation of one-half of the cerebellum, though they were a little less intense and prolonged, and consisted in rotation from the injured to the healthy side, associated with strabismus. The phenom-

ena of deficiency were diffuse and intense, and most prevalent in the muscles of the injured side and more marked in the muscles of the posterior limbs than in the anterior ones. The phenomena of organic compensation were but slightly marked.

Effects of incomplete and complete bilateral destruction of the cerebellum.—The irritative phenomena did not differ from those observed after the simple removal of the median lobe, except in being more intense, persistent and more widely diffused. Being effects of irritation of both the peduncular masses rotation on the longitudinal axis was of course absent, this symptom being observed only after unilateral or asymmetrical extirpation, where the irritation is present only in the peduncle of one side or is greater on one side than on the other.

The phenomena of deficiency differ from those of the removal of the median lobe only in degree of intensity and duration. The phenomena of functional compensation were exaggerated, while those of true organic compensation were either deficient or altogether wanting. The degenerative phenomena were not present in such a form as could be clearly distinguished from those of deficiency. In some animals there were dystrophic symptoms.

Effects of cerebellar mutilation combined with unilateral and bilateral destruction of the sigmoid gyrus of the cerebrum.—Admitting the hypothesis that the compensatory phenomena may be accomplished by the brain and particularly by the motor cortical area, the author wished to ascertain what modifications cerebellar ataxia would undergo after unilateral or bilateral removal of the sigmoid gyrus, which represents the most important segment of the sensorio-motor cortical area.

Now, from experiments performed on four dogs the author comes to the conclusion that *the compensatory movements by means of which the animal, whose cerebellum has been removed, becomes capable of maintaining its equilibrium in the erect posture, of walking and of swimming, depend on sensorio-motor areas of the cerebrum and can*

therefore be suppressed and separated from the symptoms of cerebellar deficiency, by the simple removal of the sigmoid gyri, which represent the most important segments of those areas.

The general truth which is most clearly shown by the results obtained by the author, is that the phenomena following cerebellar mutilation, whether circumscribed or diffuse, symmetrical or asymmetrical, unilateral or bilateral, do not differ in any way in their nature, but only in their intensity, diffusion and prevailing localization. From this may be drawn the yet more general physiological doctrine that the cerebellum is a central organ, which is functionally homogeneous, and is not an aggregation of organs to each of which can be assigned a different or distinct function. This law is perfectly in harmony with the anatomico-pathological fact that unilateral atrophy invading simultaneously the cerebrum and cerebellum is always found to be localized in opposite hemispheres of the two organs.

The author then analyzes the irritative phenomena, showing how they depend on irritation of the peduncular fibers, being more or less intense and diffused in proportion to the degree of irritation undergone by the fibers, and localized more to the right or left side, according as the the operation involved entirely or partly the right or left peduncles.

Among the irritative phenomena meriting special consideration is the rotation of the animal on its longitudinal axis, which was seen after removal of a half of the cerebellum. The author reports the results obtained by Majendie and Longet in relation to this phenomenon and also the theory of Schiff, and he demonstrates that the immediate mechanical conditions for the production of the phenomenon is a kind of vertiginous impulse awakened by the want of equilibrium in the brain centers consequent on the removal of one of the peduncles. It is precisely on account of the intimate anatomical relation which the cerebellum has, by means of its median peduncle, with those large aggregations of gray matter which are found

nestling deep in the pons, that the irritative phenomena may be considered as consequences of the abnormal excitation transmitted by the median peduncles to the elementary ganglia of the protuberance, not excluding, however, other direct transmissions towards the cerebrum and spinal cord by means of the efferent fibers contained in the superior and inferior cerebellar peduncles.

The author next passes in review the phenomena dependent on cerebellar deficiency. These are exclusively limited to the sphere of the organs which execute voluntary acts and do not invade that of the senses or the instincts (conservative and reproductive), or of the intelligence. On general principles it may be said that functional deficiencies manifest themselves in a lack of energy which the animal employs in voluntary movements, in deficient muscular tone and in abnormal modes of performing muscular contraction, while the compensatory acts consist essentially in an unusual form of voluntary movement, that is to say, in an unusual amount and direction of this.

Coming to analyze two typical forms of cerebellar ataxia, which follow the absence of half or all of the cerebellum, the author shows that an animal deprived of half the organ reacquires after a certain time the capability of walking without losing its equilibrium, this depending only to a small extent on *true organic compensation*, due to the assumption of the functions of the lost half by that still remaining, but results in reality from a progressive perfecting of those instinctive and involuntary acts proceeding from the sensorio-motor area of the cortex of the cerebrum, thus bringing about *functional compensation*. And these unusual compensatory movements, whether abnormal in *measure* or *direction* imprint on the walk of the animal a special ataxic character.

After cerebellar mutilation it is not only that the functional energy of the muscles is deficient (*asthenia*), but with this is always associated a depression of nervous and muscular tone (*atony*) and an absence of fusion or regular

continuity in the movements of the limbs of the injured side, which gives rise to titubation or uncertainty in voluntary acts (*astasia*).

Total absence of the cerebellum is expressed by a very peculiar ataxia which is not observed when a half only is removed and which the French were the first to characterize, naming it "*démarche de l'ivresse*." In this case the oscillating walk (zig-zag), which is completely absent when one-half only of the cerebellum is removed, is caused by the bilateral diffusion of the phenomena of deficiency and compensation. These last are largely of a functional nature, that is, they proceed from the sensorio-motor area of the cerebral cortex, and consist principally in the exaggerated abduction which the limbs assume in walking. It is worthy of note that during the irritative period sugar was almost always found in the urine of the animals. Dr. Oddi found acetone also. Luciani considers that these alterations must be attributed to disturbed regulation of material and dynamic metabolism occasioned by the functional, unstable equilibrium of the nervous system.

The dystrophic phenomena consist in the loss of normal clearness of the skin, in partial fatty degeneration of the muscle fibers in the limbs, in the manifestations of areas of alopecia, in erythemata and eczemata. These represent indirect, inconstant and not necessarily consequent effects of the diminished or lacking cerebellar innervation.

Taking account of these new, clear, well-controlled and well-recorded data furnished by the experimental investigations on dogs and monkeys, the author takes into critical examination the phenomena which accompany diseases of the cerebellum, showing, first, how clinical observations harmonize well with the experimental results as far as regards the absence of any material alteration in the senses, intelligence or instincts, as necessary effects of the altered, diminished or absent cerebellar innervation. Vomiting and epileptic convulsions are, however, among

the inconstant irritative phenomena to be observed both as the result of operation and of disease.

In the great majority of clinical cases unique characteristic symptoms are presented in the form of the so-called titubation or uncertain walk. As in the animals operated on, the titubation results from two groups of phenomena of essentially distinct natures, viz., the phenomena of cerebellar deficiency which cause an unstable equilibrium, and the compensatory acts which are brought into play in order to avoid falling and to regain the equilibrium when about to lose it.

From the gleanings of the best observed clinical cases it is shown that in the asymmetrical or unilateral lesions of the cerebellum or at least in those in which the malady attacked the expansion of the peduncular masses of one side, the tendency to fall has been towards the side corresponding to the seat of the lesion, precisely as happened in those animals deprived of half of the cerebellum. In the animals operated on, as well as in patients affected by cerebellar disease, are met with disorders of movement which are more intense in the inferior than in the superior limbs, the disappearance of the ataxia of the inferior limbs in a position of stable equilibrium, as when lying in bed, the symptoms of muscular asthenia, of atony and of astasia. The author reports next, cases of more or less complete atrophy of the cerebellum, described by Com-bette, Duguet, Clapton, Meynert, Fiedler, Pierret, Huppert; and from an examination of these draws results of fundamental importance, viz., that in none of them was there an absence of the more characteristic and essential phenomena of cerebellar deficiency, which had been observed at length and minutely described as occurring in the animals on which he had operated. As in the latter these phenomena showed themselves as varying in intensity and diffusion in different groups of muscles subject to the direct influence of the will, that is to say, more accentuated in the muscles of the pelvic limbs than in those of the thoracic, always extending to the muscles of the vertebral

column and trunk, and especially diffuse and noticeable in those muscles concerned in phonation and speech. Besides these another interesting fact is brought to light which completes our ideas concerning the indirect and not necessarily consequent effects of defective or absent cerebellar innervation, viz., that in the majority of cases (five out of eight) there were indubitable signs of mental weakness associated with neuropathic symptoms, especially in the form of epileptic convulsions.

The author afterwards takes into consideration some clinical cases (Verdelli, Andrai, Lallement, Fischer, Otto, Ingels, Hitzig) of serious cerebellar defects with an absolute or relative absence of the essential phenomena of deficiency (latent cases) and makes us observe their importance, inasmuch as he demonstrates in a very satisfactory manner that when (from reasons entirely unknown) there occurs during embryonic life an arrest of or a defect in the development of the cerebellum, there may occur in the whole of the encephalic system such an organic and functional adaptation as to compensate either altogether or in part for the organic and functional deficiency of the cerebellum.

To the long and laborious exposition of each experiment and to the logical synthesis and rational interpretation of the results, Luciani adds a rigorous critical examination of the many, varied and often contradictory opinions, advanced concerning the physiological value of the cerebellum, and assigns the merit of having first divined the functional fundamental significance of this organ, to the famous Turin anatomist Luigi Rolando, who, recognizing a certain analogy between the voltaic pile and the lamellated structure of the cerebellum, considered it as the motor of the animal machine, while Flourens, who succeeded him, regarded it as the regulator of the more complex movements, and Majendie looked on it as the organ of equilibration.

The theories of these three illustrious scientists form the foundation of all those which have been advanced up

to the present, in the pursuit of the investigation both of new experimental facts and new clinical truths. So proceeding according to the chronological order, the author takes into consideration the researches with regard to the cerebellum, of Ceres, Bouilliand, Andral, Longet, Brown-Séquard, Schiff, Wagner, Dalton, Lussana, Renzi, Leven, Olliver, Luys, Vulpian, Weir-Mitchell, Nothnagel, Ferrier, Stefani, Bechterew, Bianchi, Pugliatto, Borgherini and Labode; and he demonstrates, in an acute and rigorous criticism, the theories partly correct and partly erroneous, which all these authors have held on the physiological functions of the cerebellum.

This being premised, the author terminates his splendid monograph by tracing the first lines of a new doctrine of the functions of the cerebellum, on the basis of the results of the experiments, which he has collected and interpreted, making selections from the doctrines advanced by the observers who preceded him.

One of the greatest and most fundamental facts which the author draws from the results of his experiments is, that in extensive and deep deficiency of the cerebellum, as indeed in complete absence of that organ, there is no paralysis, either partial or total, either of the senses, of movement or of sensorial, intellectual or volitional functions. All this induces the author to affirm that the cerebellum is a functionally homogeneous organ, in which each segment has the same functions as the whole organ and is capable of supplying the deficiency of the others, provided there are no alterations in its natural relations, whether in the afferent paths by which it receives impressions from the senses or in the efferent paths by means of which its influence is transmitted to the rest of the central nervous system.

And since the results obtained by the author after long and persistent research, show in so evident and constant a manner that cerebellar deficiency is characterized principally by three classes of phenomena, viz., by *asthenic*, *atonic* and *astatic* neuro-muscular phenomena, it follows

logically from this that the influence which is normally exercised by the cerebellum over the rest of the system is transferred into a *sthenic, tonic and static neuro-muscular action*, that is to say into a complex action by which:

(a) Is increased the potential energy disposed of by the neuro-muscular apparatus.

(b) Is increased the degree of tension during the functional pause (tonic action).

(c) Is accelerated the rhythm of the elementary impulses during their functional activity and there is a normal fusion and regular continuity of the acts (static action).

The cerebellum exercises also a trophic action, both direct and indirect: the first is sufficiently proved by the conspicuous degeneration and sclerosis which follow the complete removal of the organ, and the second is revealed especially in the slow muscular and cutaneous degeneration and sclerosis with different dystrophic forms which are frequently observed during the course of cerebral ataxia.

Lastly, the author, examining briefly the analogies and differences presented by the cerebellar functions compared with those of the other nervous centers, notes that in many respects the trophic action does not differ from that met with in the other nervous centers and segments of the nervous system (section of peripheral nerves, mutilation or destruction of any part whatever of the brain).

In as far as regards the functions of the cerebellum they seem altogether different from those of the other centers of the nervous system, since the cerebellar deficiencies express themselves in simple asthenic, atonic and astatic phenomena, while deficiencies of the other centers are followed by complete or incomplete paralyses of sense and motion. But this difference depends on the fact that the cerebellum, with its accessories, forms a little system by itself and is relatively independent, so that its absence causes no interruption of the centripetal and centrifugal paths of conduction between the cerebrum

and the peripheral sensory and motor apparatus and from the other fact that the cerebellum has no territory of action which is exclusively its own, that is, one which is not at the same time under the influence of the cerebro-spinal axis. It is exactly for this reason that the cerebellum may, because of the special conditions in which it exercises its action, be considered as a small assistant or auxiliary to the great cerebro-spinal system.

In closing this review of Luciani's work, we can only express the sense of admiration with which we have read it. A physiologist and profound scientist, Luciani has succeeded in impressing on his work of art a vigorous personal character, and after making first a long and mature study of the objective facts as if no physiologist had been occupied with the subject before him, he rises by logical synthesis to the interpretation of his results and lays the experimental basis of a new doctrine concerning the functions of the cerebellum.

The relative autonomy of the cerebellum, that is considered as a terminal organ, in direct or indirect relation with the peripheral organs of sense and peripheral apparatus of voluntary movement, constitutes one of the fundamental facts of the new theory. Other facts of great importance which are brought to light by Luciani's studies are the following:—the bilateral action, principally direct, of the cerebellum, the functional homogeneity of this organ, by means of which every segment of it has the same function as the whole, while its principal function consists in a complex sthenic, tonic and static neuromuscular action.

Another result of high scientific importance which is derived from the studies of Luciani is the trophic influence exercised by the cerebellum, met with also in the other centers of the nervous system and particularly in the ganglia, which constitute the great sympathetic. (Baldi.)

Luciani's researches have destroyed Flourens's theory which had created an abstract and fictitious entity, "the principle of co-ordination and regulation" of the movements

and complex attitudes represented by the different forms of locomotion and standing, which doctrine is obscure and defective, since we cannot imagine, as the author justly remarks, in what consisted the pretended function of co-ordination of the cerebellum, over the movements of walking, which are willed by the hemispheres and executed by the spinal cord.

Luciani has been able to determine the true physiological office of the cerebellum and has founded a new theory on the basis of a large number of experimental data, so carefully observed that the scientific results derived from them are indisputably evident. Luciani's theory represents, in our opinion, the highest and most complete doctrine which can be imagined concerning the functions of the cerebellum.

Considered from a clinical point of view it acquires a special signification.

It is known that Nothnagel, basing his theory on case histories, maintained that the complexity of disorders comprised under the generic name of cerebellar ataxia were present only when the lesions affected the vermiform appendix or middle lobe of the cerebellum. Now Luciani's experiments go to show that the doctrine of Nothnagel, whatever may be the practical and diagnostic value attached to it, has none whatever from a physiological point of view. According to Nothnagel, the vermiform appendix and the cerebellar lobes are altogether different organs, while, according to Luciani's investigations, they possess the same functions. The studies of Luciani open a new field to the clinician, but in order that these may be of aid to physiology, it is recommended that the examinations made during life on individuals affected with cerebellar disease should not be superficial, incomplete and imperfect, as has been observed in the greater number of cases published until now, but that the morbid phenomena be described with exactness and precision, and lastly, that the limits, the depth and the intensity of the lesions be well defined.

We consider it superfluous to recommend this book of Luciani's to students of physiology and neurology.● The name of the author makes it certain that it will be most favorably received by the medical public, not only from the fact that a perusal of it could not but be profitable to anyone, but also, and this is rare in a scientific work, because of the excellent form and extraordinary clearness of exposition which the author has employed in the treatment of this difficult subject.

A CASE OF TUMOR OF THE PINEAL GLAND.

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THE following case of brain tumor is reported on account of its rarity. Schulz (*Neurolog. Centriblt.*, 1886, pages 439 and 500) collected all the cases of tumor of the pineal gland reported up to the time of his publication, which, with his own, numbered only seven.* Since that publication I find but the report of two cases, one by Daly (*Brain*, 1887, page 234), the other by Kny (*Neurolog. Centriblt.*, 1887, page 281). All these cases were much alike. Usually the tumor was described as of the size of a walnut (a description applicable to my own), and as pressing on neighboring organs, especially the corpora quadrigemina. A special feature was pressure on the venæ Galeni, or aqueduct of Sylvius, which caused internal hydrocephalus. It need scarcely be mentioned that the symptoms were altogether due to pressure, and, much alike in all the cases. Partly they were due to pressure on the corpora quadrigemina. Various ocular paralyses and difficult or reeling gait, may be thus explained. To a larger extent they were due to the large, perhaps rapid, accumulation of fluid in the ventricles. Rapidly developing blindness, blunted intelligence, etc., were thus produced. It will thus be seen that the symptoms are much like those produced by tumor of the cerebellum, for with the latter, also, acute hydrocephalus usually occurs, and a reeling gait may be found

* These are tumors limited to the pineal gland, but Schulz, probably, referred only to cases reported with clinical histories, for other cases have been seen. Virchow (*Lehre von den krankhaften Geschwulsten*) described such tumors many years before the first case of Schulz's collection was reported (1871) and Welgert (*Virchow's Archiv.*, LXV., page 212) gives a careful description of a tumor of the pineal gland which was of the character of a dermoid cyst.

with either. And tumor of the cerebellum was really the diagnosis made in those cases where a local diagnosis had been ventured. The ocular symptoms might suggest the true diagnosis in some instances. The absence of motor and sensory paralysis is also a noted feature in these cases.

The following case was seen with Dr. J. W. Murphy, in Covington, Ky. I saw the patient but once. As Dr. Murphy was called in at a late stage of the disease, the following history was obtained from the mother:

G. W., age 13, formerly in good health, began to suffer, in July, 1891, with headache. The headache was not continuous. He would sleep fairly well and awake with pain about 5 A. M. The pain would last about one half-hour and then abate, and such attacks would recur during the day. The headache was very severe, mostly on the top of the head or in the temporal region; to a less extent in the frontal or occipital regions. Not infrequently it was attended with vomiting. After some months and when he became bed-ridden, the pain lessened in degree, if it did not disappear. To what extent this was due to a blunting of all the perceptions I cannot say, but the mother thinks the pain lessened while the mind was comparatively lucid. She thinks he never had vertigo.

Soon after the headache was first complained of, it was observed that he did not walk well, "like a drunken man." His head was drawn back and to the left side, so that his eyes could not be directed to the floor, and besides, walking increased the pain in his head. To these conditions the mother attributed the reeling gait.

Vision became impaired toward the beginning of his illness, and by November he had become totally blind. Hearing also was noticeably impaired in September and grew worse afterwards.

Speech began to be indistinct, perhaps, in October. The boy himself noticed it at the time and asked why he could not talk more plainly. It subsequently became so bad that none but his mother could understand a word he said. But she says that even to the end she could understand the few words he uttered, such as "drink."

In October he began having peculiar paroxysms which the mother spoke of as fainting spells. He would be unconscious and all the muscles rigid, but there was no clonic spasm, no frothing at the mouth or the like. These paroxysms occurred several times daily and continued until death. They were usually of a few minutes' duration. A few lasted as long as one-half-hour.

The patient took to bed in November and never got up again. His mental condition became steadily worse, and after February he appeared to observe almost nothing. He began soiling his bed soon after he took to bed. The only other symptoms mentioned by the mother were contractures of the left arm, elbows flexed at right angles and fingers flexed, which appeared in December or January; and in February for several weeks he had much difficulty in swallowing, especially fluids. When he swallowed the latter it seemed almost to choke him. But this condition passed away again.

I saw the patient March 29th, 1892. His condition was as follows: He was much emaciated, pulse 130, small and feeble. He lay quietly on his back, rarely moving and paying heed to nothing. The left arm was in a state of contracture, arm pressed against the chest, elbow flexed at right angles and fingers flexed. The effort to overcome the contracture, which was done with difficulty, produced great pain. There was also contracture of the feet. They were held in a position of equino-varus. Leaving the parts just spoken of out of consideration there was no manifestation of motor paralysis. He moved the right arm and both legs, and the face was not drawn to one side. Also the prick of a pin was everywhere felt. His mother said he could hear somewhat, and that this was true I succeeded in establishing, for when I pricked him with a pin and at the same time called in a loud voice to put out his tongue, he did so. The pupils were large and did not respond to light. The eyes appeared to move freely in all directions. There was double optic neuritis.

In the hour's examination, we succeeded in getting but one articulate sound from him, which I took to be intended for the word "yes." The mother stated that he still took food pretty well and would occasionally, by word or act, give expression to some wish.

The reflexes were tested with difficulty. Cremasteric reflexes were easily elicited. The knee-jerk was at one

time elicited on the right side, and then not elicited at all on either side.

Little change in the boy's condition was noted subsequent to the time of my visit. On the last day of his life he had several tetanic spasms (opisthotonos). He died April 29th.

A *post-mortem* examination was made April 30th. The skull cap was found to be unusually thin. The dura was tense, the convolutions flattened and pressed against one another. There was a large accumulation of fluid in the lateral ventricles, and the latter were enormously dilated.

A tumor lay freely in the ventricles, occupying about an equal space on each side, and having no adhesions to any part, excepting very slight connective tissue attachment to the ependyma of the ventricles. The tumor was very soft, not harder than the brain tissue (though there was considerable brain sand in it) oval in form, its largest diameter about $1\frac{3}{4}$ inches, its smallest about $1\frac{1}{4}$ inches.

Drs. J. C. Oliver and C. S. Evans, Curators of the Cincinnati Hospital, kindly examined the tumor for me, and their report is as follows: "The growth consisted almost wholly of round cells, surrounded by a transparent homogenous matrix, The cells possessed nuclei and were finely granular. From the appearances we are of the opinion that the growth was a glio-sarcoma."

The symptoms when I saw the patient—rapid onset of blindness, deafness, blunted or lost intelligence, without motor or sensory paralysis—were so manifestly due to acute hydrocephalus that I urged the mother to permit the operation of tapping the ventricles, but as I could only promise temporary relief, a fatal issue being inevitable, she refused her consent.

The blindness was not due to the optic neuritis. Wernecke has shown that in such cases there is direct pressure on the optic chiasm or tracts.* In my case the

* In Kny's case the optic tracts had become mere translucent ribbon-like bands.

latter appeared to be somewhat flattened. The impaired hearing was probably due to the acute hydrocephalus, for the auditory nerves appeared to be normal.

Vomiting, speech disturbances and difficulty in swallowing, were, very likely, due to the pressure on the medulla and pons. The retraction of the head, contractures of the left arm and feet may be explained by irritation of parts of the pyramidal tracts. The latter symptoms as well as tetanic spasms are occasionally observed with tumor of the cerebellum.

Finally, I wish to give a brief summary of the nine cases previously reported.

The ages so far as given were 39, 19, 50, 19, 28, 31, 32 and 25 years respectively, so that my own, 13 years of age, was much younger than any other reported. The tumors were described as Sarcoma (2), glioma (2), carcinoma (2), psammoma (1) and cyst (1).

In five cases the headache was chiefly occipital, in two it was chiefly in the anterior part of the head.

In seven cases the intelligence was more or less impaired, if not altogether lost. In only one was it spoken of as normal.

In seven cases there was blindness or much impairment of vision. In three of these cases it is explicitly stated that the loss of vision was speedy.

Deafness was only mentioned in two cases, in one of which it was only in one ear.

Inability to stand or walk or difficulty in walking was mentioned in six cases.

Epileptic or tetanic spasms were reported in six cases. In one instance it was mentioned that there were no seizures of this character.

Difficulty in swallowing was reported only in Schulz's cases. Here it was said that the patient could not swallow with head erect. It was necessary to flex the head forcibly upon the chest, so that only fluids could be swallowed, and the latter were sucked through a glass tube.

Speech was spoken of as "slow" in Kny's case. Such disturbance is mentioned in only one other instance, the patient of Daly's. Inasmuch as the latter presented symptoms more nearly like my own case than any of the others, I will give a brief abstract of it:

The patient was a man, 25 years of age. The whole duration of the disease was seven months. He had occipital headache, a reeling gait, blindness of rapid onset, deafness, mental impairment, paresis of left abducens, occasional tonic spasms or epileptiform convulsions, head retracted and double optic neuritis. It was said "when pinched or moved he would give a grunt, but hardly ever uttered a sound except when he wanted food." The tumor was an alveolar cancer two inches in diameter. It is singular he does not mention the ventricles in his report, and yet the symptoms must have been due to their distension with fluid. The lack of mention must have been an oversight. Hydrocephalus is spoken of, but in five of the nine cases. It can scarcely be doubted that it was present in some of the others, though unmentioned.

Contractures, like those found in the left arm and feet of my patient were not reported in any of the nine other cases. But in two cases the tendon reflexes were exaggerated.

In contrast with my own, in most of the nine cases there was some involvement of the external muscles of the eyes. In two instances the eyes were turned downwards and to the right without actual paralysis. In two others there was some protrusion of the eyeballs. In three there was nystagmus; in one ptosis. In several cases there was either paresis or paralysis of the fourth, sixth or some branches of the third nerve.

It is impossible to say that there was no impairment of these nerves in my case. Paralysis of the fourth or paresis of the third or sixth nerves could not have been detected in the last six months of his life.

THE LAW OF PERIODICITY IN INEBRIETY.*

By T. D. CROTHERS, M. D., Hartford, Conn.,

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THE alternation and periodicity of the functions of the brain and nervous system have not been fully studied. Periods of inactivity, as in sleep and wakefulness for a definite time; the rise and fall of temperature; increase in heart pulsations and cardiac pressure also; the nutrient and reproductive periods are all common physiological periodicities.

This same mysterious alternation appears in the diseases and degenerations of the brain and nervous system. The neuralgiac migraines and epilepsies are familiar illustrations.

In insanity the *folie circulaire* is equally noticeable. This rise and fall of nerve functions, together with habit, alternations and relapses in disease, suggest a field of laws and forces that are largely unknown.

The inebriate who drinks to great excess at distinct intervals and abstains totally during the intervening time is a type of the neurotic character of these strange cycle degenerations. Literally and in appearance these cases represent in one person a type of exemplary temperate living, and a state of alcoholic frenzy, with mental and moral degeneration, recurring within fixed intervals of time.

At one period the victim is a rigid moralist and strict abstainer, and by word and example is a temperance teacher of an aggressive type, whose views are emphatic and earnest. Later, he is secretly and openly

* Read before the Section of Neurology, June 9th, 1892.

an excessive drinker and a low intriguer, displaying the most opposite traits of character and conduct. Yet the public accept his theories of inebriety and assume his experience as having given him knowledge not possible to others.

Unlike any other victim of disease, his judgment is held in higher esteem and his views are considered an authority on this topic. Some general statistics indicate that over 60 per cent. of all inebriates are of this periodical class.

The length of the free interval varies widely from one week to two or more years, and in some cases recur at distinct intervals not varying more than a few hours.

In others this free interval is very irregular, apparently depending on unknown conditions of environment. In others it follows certain functional derangements and disturbance of nerve and brain health. In certain cases it appears as mysteriously as a flash of electricity in a cloudless sky—no premonition or hint and each attack comes in an equally mysterious way.

The clinical history of these cases reveals several distinct classes with widely varying symptoms and conditions.

One of the most prominent groups I have met are the insane impulsive periodics. The free interval varies widely. The drink craze comes on abruptly when least expected. Thus, at some unexpected moment, when his presence and judgment are most essential to success and when the drink craze may be almost fatal, he will fall. As an illustration, on the eve of marriage, or some social, political or literary triumph or business success, this delirium appears.

He will disappear and conceal his condition or boldly display his insanity in opposition to all advice or entreaty. Then suddenly realize his condition and make a great effort to recover. Intense sorrow and grief, coupled with explanations, prevarications and earnest efforts to repair the losses will follow. Often he will ascribe his recovery

to some means or remedy taken at the last moment, and defend it with delirious faith and energy.

He is often unable to give any rational idea for the motives or reasoning which preceded the drink craze.

His memory is always vague as to the nature of his acts—although events may be clear, the higher consciousness is cloudy. The reason and judgment seem to be suddenly arrested by some morbid impulse which palsies every other consideration.

These paroxysms come without an apparent premonition and are a surprise to the victim and his friends.

The drink thirst continues up to a certain point, then suddenly dies out. The character of the acts in this delirium vary from maudlin religiosity to wild aggressiveness and through all degrees and forms of insane conduct.

Men in this state will display delirious zeal for the temperance cause and be very prominent in revival and religious charities during the free interval and continue it during the onset and decline of the paroxysm. The height of the attack is marked by coma or extreme delirium, with delusions, hallucinations and hyperæsthesia running into intense egotism, ending in a period of bold hypocrisy and self-deception.

This gives way to the normal, mental and moral status which continues to the next period.

Another class of these periodics will display distinct premonitory symptoms of the drink craze, and like the first class, will be clearly unconscious of it. The more common of these symptoms are degrees of unusual excitement or depression, great business energy or apathy, or especially brilliant mentality or the opposite.

Often they exhibit alarm for their future state, fear of poverty or dread of sudden death. Then suddenly the drink delirium appears and an entire change follows. When this subsides the old delusions are not taken up. Deep depression generally follows, with a partial or total blank of memory, or a delusion of some particular pleasing or unpleasing event in the paroxysms.

Not unfrequently marked hallucinations and vague delusions continue for a long time. The drink insanity is sometimes filled with short periods of pretended effort to abstain, of intrigue and low cunning to defeat the efforts of others to help them.

Such men appear at the prayer and temperance meeting, appeal to the benevolent, pass as examples of cure by some strange mental or moral remedies. Egoism seems to be a dominant mental symptom, together with duplicity and prevarication. When the paroxysm dies out all their false character disappears.

A third class, after a period of prolonged sobriety, will have premonitory periods of delusive reasoning, such as ideas that they have some disease which requires spirits as a remedy. They appear in good health and seem oblivious to any past experience in which this same idea preceded former paroxysms. After a drink of spirits as a medicine the drink storm comes on. When this is over they do not stop spirits abruptly but continue in decreasing doses until final subsidence. Then comes a period of food and health delusions, marked by unusual care of themselves, their surroundings and nutrition.

Such cases are not unfrequently checked in the midst of a drink paroxysm by some powerful mental emotion, as an appeal to their fears, forced change in their surroundings or abrupt shocks to their ambitions or purposes in life.

Often the paroxysm is masked by some condition which breaks out again when these restraining states are removed.

The value of chemical restraint is apparent by covering up the impulse and thus holding it a long time in abeyance, usually to break out again.

This class is prominent for the mental symptoms of paranoia and defects, and are rarely seen occupying positions of trust and responsibility long. They develop general paralysis and melancholy and often die of suicide.

A fourth class are noted by the exact recurrence of the drink cycles irrespective of all conditions and surroundings of life. The paroxysm is sudden and impetuous and the mind is filled with delirious conceptions of pleasure from the taste and effects of alcohol. This state may be concealed for a time but grows steadily until full gratification follows. Such cases suddenly assume some burden of reform, with a secret hope to break up their imperative conceptions.

The most careful plans for the concealment of the drink storm are often made, which end abruptly with no especial depression or moral regret.

The memory of acts committed during the storm is cloudy and the free interval never varies in time and hence a certain expectation is created in the mind which prepares for it. Many of these cases are engaged in the work of helping others and exhibit strange acts which are only explained by the presence of this fated periodicity. These cases never give any rational reason or explanation of their conduct, and as a rule, always try to conceal it. The heredity of these cases is prominent. So far, over 90 per cent. of all cases of periodicity have a neurotic heredity. Insanity, epilepsy, inebriety, hysteria, idiocy, dementia, paranoia, also phthisis, rheumatism and the various organic heart diseases are present in the parents and grandparents, indicating an irresistible neurotic degeneration coming from the ancestors. All these neuroses are interchangeable and may break out in periodic inebriety from special and unknown predisposing causes. The recurrence of the drink paroxysm is in itself evidence of a neurotic origin involving the higher controlling centers.

It is a question of great interest to determine how far this neurotic tendency to break out at distinct intervals in morbid impulses for the narcotism of alcohol, is a direct inheritance or whether it be one of the symptoms of obscure disease.

Children of inebriate parents have often a direct hered-

itary predisposition to use alcohol. Coming from neurotic parents the marked tendency is to arrested growth and development before birth, enfeebled power of adapting themselves to environment for the first few years of life, irregular development and precocious growth in certain cases at puberty.

The degeneration from functional and organic diseases which the system is unable to overcome, the morbid tendency to exhaustion of the higher nerve centers and the faulty maturity of both organic and functional activities. Add to these the common errors of environment or nutrition and the hereditary taint or tendency to develop certain distinct nerve diseases is inevitable. It is often developed disease with a neurotic basis or favoring tendency. The drink craze, as at present understood is a symptom of central nerve and cell debility demanding relief from the narcotic action of alcohol. Why these states of brain anæmia or cell irritation should gather and explode at periodic intervals is not clear. The same states of degeneration, both acquired and inherited, appear in epilepsy and other neuroses, showing that they are clearly allied family diseases, only varying in symptoms.

As in epilepsy, the periodic inebriate suffers from disturbance of the co-ordinating and inhibitory apparatus of the higher brain center.

Nerve energy is not liberated along motor tracts, but through mental areas in the impulse for rest from the paralysis of alcohol. The discharging energy is neutralized by chemical restraint.

The physical and psychical irritation of the brain centers is overcome by continuous narcotism (for the time). Then a period of normal activity follows, in which this explosive impulse is dormant. These paroxysms resemble epilepsy in origin, onset, duration and termination. They differ in being confined to consciousness and mentality, with a central object for relief. After the explosion the mental operations seem normal and along

the levels of comparative health. Opium and other neurotics will bring the same relief at these times, but probably they are followed by more organic disturbance, which demands their continuous use.

The increase and diminution of alcohol on brain circulation, and the vasomotor paralysis, together with reduced temperature, non-elimination of organic products and slowing up of both functional and organic activities to the verge of total suspension, followed by a rapid return to apparent normal states are peculiar to these cases.

In all probability the periodic inebriate is largely a masked form of epilepsy, and is the result of special unknown exciting causes and conditions. The steady drinker will, after a time, have alcoholic epilepsy or epilepsy from continuous irritations of the cortex.

The epileptic will often become a periodic inebriate, manifesting at times a delirious craze for alcohol and then having a free interval of sobriety. The same causation seems to be present in both. The same profound cerebral anæmia or irritation that breaks up co-ordination and pervert nerve energy, may develop into a convulsive discharge through the motor tract, or a convulsive impulse for spirits and relief.

The natural function of the brain to gather and discharge energy is impaired, and the force essential to the normal working of the organic life explodes at intervals with destructive energy.

These periodicities are more common after twenty, when the organic activities of the brain have become matured, and often subside or merge into some serious nerve or brain degeneration before fifty. In many cases they appear to follow a natural cycle, beginning in a short period of continuous drinking, then a drink paroxysm with long free intervals. The length of this paroxysm increases up to a certain point, then grows shorter. Commencing in a single day or night's indulgence, it grows until it covers two or three weeks of time, then

becomes less and less until finally a day or a few hours is the utmost limit of toleration. The system then refuses to retain any more spirits and an intense loathing and repugnance follows. The free intervals likewise change, at first extending over months and often one or two years, then grow gradually shorter until they reach a minimum of a day, then increase until the drink craze finally dies out or death follows.

This rise and decline in the length of the drink and free interval period, points to some unknown law of accumulating nerve force and degeneration. The fundamental principle running through these periodicities is the steady uniform march of degeneration, manifest in explosions of nerve energy for narcotism and relief.

The force generated in the nerve centers concentrates and reaches a degree of tension that is only discharged in the acute delirium and coma of alcoholism. Narcotism from opium, cocaine, chloral and similar drugs, has the same effect with greater prostration and nerve lesions which demand its constant repetition. The narcotism of opium, chloral and other drugs is rarely followed by repugnance and a free interval of relief and rest. Hence, the treatment of these drink paroxysms by the substitution of other drugs is always dangerous. It is a question of grave importance how far such cases are to be considered of sound mind and capacity.

Is it possible for anyone to be narcotized for a week or more at different intervals and retain normal reason? Does the brain fully recover from these explosions and the chemical and physiological action of alcohol, when used to excess, even though followed by a free interval?

The popular opinion, even among physicians, is that such symptoms are often signs of genius and capacity and are rarely to be considered as evidence of disease.

Clinical study brings no support to such views, but on the contrary points out grave changes of the higher brain centers, seen in failure to both reason and control the functional brain activities.

While the higher and psychic brain steadily degenerates the lower motor and automatic brain goes on masking and concealing the evidence of disease.

Along the normal lines of every day's thought and work the apparent health of the victim is unquestioned; but vary this, and his real condition is apparent.

Let the periodic inebriate change his occupation and its surroundings and this incapacity and unsoundness will be prominent. Practically the periodicity of the drink craze, together with its intense, unreasoning demand for narcotism, is an unmistakable sign of disease.

Literally both the morbid impulse and the effects of its gratification break up the co-ordination and the inhibition of the higher brain centers, impairing the capacity for healthy reasoning and leaving states of debility and unsoundness.

The failure to realize this fact is followed by very serious losses, accidents and tragedies every day.

The periodical inebriate should, of all others, receive immediate medical care. There is impending peril and danger in his case, far more than in the regular drinker. His case should be studied and the various predisposing and exciting causes removed, and the real disease discovered of which the drink craze is only a symptom.

While the periodical inebriate may live many years and attract no attention, medically he is always the center of possible grave irregularities, epilepsies and paralyses. His conduct is a succession of disappointments, of failure and losses, that are viewed from the moral side. Overweening confidence and boasts of strength, and abject failures, are constantly repeated. Many of these cases become paranoics and dangerous to society.

The very complexity of the causes and symptoms make them fit subjects for mental delusions and epidemics, and enthusiastic supporters of all changes and events involved in mystery. The mystery of these drink cycles in themselves prepare the mind for credulous, unreasoning superstition and conduct.

The number of periodic inebriates in all conditions of life is very large, and while they do not attract much attention, are unquestionably the most dangerous brain and nerve defectives in the community. They are amenable to treatment and are both curable and preventable.

The periodical inebriate, like the epileptic, has been mustered into an organized cycle of degeneration and death, and there is no escape except by applied rational science.

This is the new psychological territory opened for settlers, with its boundless wealth of facts and laws pointing to causes and conditions that are preventable, awaiting discovery and application, promising a new era in medical science.

As a summary of this brief study:

1st, The periodicity of the drink paroxysm is unquestioned evidence pointing to central brain disease.

2nd, Heredity, nutrition, mental exhaustion and environment are all very common causes or predisposing factors of this condition.

3rd, Allied diseases, of which epilepsy is very common, are associated with this, and similar affections are interchangeable.

4th, The drink periodicity follows a uniform line of events, ending about the same way in nearly all cases. Its varieties and symptomatology are practically the same in the regularity of origin, development and termination.

5th, These cases are the most uncertain and dangerous of all drink neurotics, and are the least understood. The prognosis is uncertain and full of dangerous possibilities, and the natural tendency is death.

6th, These cases are very susceptible to treatment when the measures are applied scientifically and with full knowledge of the causes. Their inebriety is more positive than that of other inebriates. The drink impulse is often controllable and frequently disappears with treatment. This class requires the most careful medication and study.

7th, Medico-legally, the most important problems are associated with these drink paroxysms. Each case requires special study, and is to be judged from general principles of physiology and psychology.

8th, Such cases of necessity have impaired brain and nerve control, and cannot be measured by the rule or standards of mental health.

9th, These cases should receive careful study and examination. Tabulated facts of sufficient number and accuracy are needed from which to draw accurate conclusions, covering the laws which govern this class of neurotics. Their curability is assured when the causes are known, and by the application of means known to science.

MENTAL DERANGEMENT IN MULTIPLE NEURITIS.*

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MY attention had been called for some time to the mental symptoms in cases of multiple neuritis, especially of alcoholic origin. This was increased by a paper in the *Archiv. für Psychiatrie*, 1890, by Korsakow, in which the writer called attention to them, asserting that often the peripheral nerve symptoms were either absent, or were secondary in character. Having opportunities of seeing a great number of cases of this class, I have especially noticed the mental picture, and believe that a diagnosis from their presence alone, can be made.

While alcohol can be considered the usual cause of the disease, still in many cases, the previous history does not point to any excess in the use of this poison. Much has been written of late years on multiple neuritis, so that we are familiar with the symptoms of the peripheral nerve lesions.

Its usual course being paraplegia, involving first the lower extremities, with exquisite tenderness of the muscles and nerve tracts, wasting and loss of reflexes, then later involving the upper extremities, beginning in the hands, in extreme cases, giving the picture of double foot and wrist drop, the patient suffering comparatively little pain except on handling the limbs, or on motion, if that is possible. In fatal cases the respiratory and cardiac muscles are involved. This is the usual description, and a correct one. The mental symptoms have also been referred to, as in Starr's article on this disease, but they have not been prominently brought forward. In the cases I shall record, they have been either the

* Read at New York State Medical Society, February 5, 1892.

most marked symptoms present, or at least, very prominent. I would not have it inferred that all cases of multiple neuritis, whether alcoholic or otherwise, have mental symptoms, for many, if not the majority, run their course without them. Leaving out the peripheral nerve lesions, the mental symptoms in these cases that I would draw attention to, are the following:

The patients have a complete loss of knowledge of the time of the commencement of their illness, or of time as it is passing; weeks or months pass by without their appreciating them. They are unable to tell how they were brought to the hospital, or who brought them, and on their recovery, they simply recognize, on being told the fact, that they are in a hospital, but the intervening time is a complete blank. They can give an accurate description of events up to the time when they were taken ill, and that is all. There is loss, therefore, of all knowledge of time and place. While in some of these cases the disease has immediately followed on an excessive debauch, many again have only been moderate drinkers, and this does not, therefore, come under the head of ordinary acute alcoholism. The length of time of this lapse of mental power differs widely from it. I have in some cases observed also marked hallucinations and delusions, but as I have said, the most marked symptoms are those of loss of memory, of time and place.

In this connection I would also remark that in multiple neuritis the most marked peripheral nerve lesion may be noted in the upper extremities, the lower apparently escaping; or again, no peripheral lesion being observed, unless the mental symptoms, as related, have directed especial attention to the examination for them.

The mental symptoms point most decidedly to a brain lesion, and probably in these cases it is the set of association fibers that are chiefly involved. There seems apparently no failure in understanding what is seen or heard, but no memory of it remains, nor does the fact

itself call up the usual association of ideas. This condition may last months, a gradual recovery taking place, the patient recognizing the place he is in and the passage of time. In my experience, however, even when complete recovery has taken place in the peripheral nerve lesion and the mental affection, the period of their illness is never recalled.

Few autopsies have been made. One is referred to in the *Archiv. für Psychiatrie*, 1891, which I shall refer to later on.

The first case, which I shall relate briefly, is as follows:

Male, æt. 55, laborer; history of alcoholism and syphilis; complains of inability to walk and of some weakness in the hands; is slow in answering questions. On examination, he was found to be able to walk fairly well; no marked motor symptoms, no foot drop; reflexes intact; slight loss of power in hands, but no wrist drop. He is unable to state how long he has been ill, nor how he came to be in the hospital; is unable to name the day of the week; does not complain of pain, but on deep pressure on the median nerve, and on grasping the muscles of the forearm and arm firmly, he complains of pain; no pain elicited in the lower extremities.

I have purposely related the case first, as one in which the symptoms of the peripheral disease were very insignificant and would not have been observed at all if the mental symptoms had not called attention to them.

Syphilis and alcoholism being such frequent factors in all cases admitted to the public hospitals, they would not have directed especial attention to the latter as the cause of the disease, while cerebral syphilis, although presenting often loss of memory and perhaps a comatose condition, extending over days and weeks, does not present the loss of time and place without obscuration of consciousness, nor is bilateral multiple neuritis present.

Josephine Rogers, age 37, occupation housework; nativity, U. S.; admitted to the hospital Nov. 1st, 1891. Family history, negative.

Previous History.—Moderate drinker; denies syphilis and has no appearance of it; married seven years ago; no children; has suffered with menorrhagia for three years after marriage; health was good up to the present attack. When questioned as to when this attack began, she is found to be perfectly ignorant about it. She has no idea when or how it began, or where she was, or where she was treated, or by whom; she does not even know how long since the present illness began. She is rational, but memory impaired. She does not know how or when she came here.

Examination of the limbs shows in the hands no marked atrophy but a diminution in grip. The little and ring fingers are slightly flexed in the left hand and the little finger in the right hand. There is no marked wrist drop. The feet are extended permanently and the toes flexed bilaterally. Calves of legs show atrophy with pain when pressure is applied. Unable to walk. Cutaneous reflexes feeble and slow in the legs; patellar reflex markedly diminished; micturition and defecation normal.

Jane Hooper, age 40, occupation housework; nativity Scotland; admitted to hospital Nov. 1st, 1891. Father and mother dead; two sisters in good health.

Previous History.—Moderate drinker; denies syphilis; has lived in America four years; has had good health until present illness, which began about six months after landing. She had several attacks six years ago, but they were of brief duration. She is unable to state when she got into this condition; memory impaired; she can talk of things which happened five years ago, but not of daily events. She is unable to state when or from where she came to this place, but she is aware now where she is.

Examination of limbs shows atrophy of muscles of hands; feet extended, and toes flexed with marked atrophy of the calves of legs and painful to pressure; at times jerking of the legs, yet she seems to have plenty of strength in them. She is unable to walk, however, on account of the condition of the feet. She has not walked any in nearly four years. Cutaneous reflexes are feeble; patellar reflexes diminished; plantar reflexes are about normal; micturition and defecation are normal.

Mary D—, age 30; U. S.; married; domestic; admitted Oct. 30th, 1891. Intemperate in habits; has two children, one living. Physical condition poor; has

multiple neuritis; mentally, is confused, inaccurate and contradictory; nothing intelligent can be obtained from her; tongue coated, joints hot and swollen and painful; has profuse perspirations; noisy and excitable at night.

Nov. 5th—Admitted to hospital ward; in bed and helpless; muscles of legs and arms atrophied; flexor of feet paralyzed; has spots of cutaneous hyperæsthesia and anæsthesia of various parts of legs and thighs; complains of agonizing pains in thighs when moved. Her memory is very defective and she has no idea where she is or how long she has been here. She says she came to the institution last night and walked all the way from Ninth Avenue; that she came with "Annie," referring to an attendant, whom she imagines she has known for years and thinks the hall doctor is an old friend. Denies having used intoxicating liquors, but her friends say that she has been drinking to excess for the past three years.

Treatment.—Massage and Faradic current to paralyzed limbs; strychnia and tonics.

Nov. 10th. Memory still very defective; says she came here yesterday—this is Johnnie's place, and that she has a room upstairs; a half-hour later, says, "This is New York Hospital, is it not? Oh, I guess I am crazy." She is very silly in her manner and actions; Not improving physically.

Nov. 25th. A little brighter mentally; begins to realize where she is, but does not know how long she has been here. Physically not improved. She complains of great pain in her limbs when moved. Wasting of muscles continues in spite of treatment.

Dec. 25th. Out of bed and able to sit up in chair in the sitting-room, but cannot use her legs; can help herself readily with her hands, and knits occasionally; complains of pain in legs and thighs when moved, and screams when changed from the bed to her chair. Mentally improved; has a fair knowledge of her previous condition and of her present surroundings and recognizes those about her. No delusions, illusions or hallucinations, but she is somewhat silly in her actions and demeanor.

Jan. 20th. Coherent in conversation; no physical improvement.

Rebecca R., age 33, married, Ireland; housewife, six children born, five living. Admitted Nov. 12th, 1891.

Habits intemperate, not hereditary. Physical condition poor; has multiple neuritis. Mentally, incoherent, confused, has hallucinations of sight and hearing, imagines she sees animals about her in the room, hears voices through the telephone which call her vile names. She becomes excited when these voices are persistent. The attack began about three weeks before admission. The first symptom noticed by her friends was that her memory began to fail; she then became restless, irritable and excited, and disturbed the neighbors, so that they were obliged to send her away,

Nov. 14th.—Received in hospital ward; is helpless and confined to bed; muscles of arms and legs atrophied; flexor muscles of feet paralyzed; sensations delayed; patellar reflexes absent; complains of pains in limbs and back. Liver enlarged, skin and conjunctiva jaundiced; mental condition, demented and confused; has illusions regarding the identity of persons about her and imagines that they are old friends; has no idea of time and does not know where she is. When asked where she is she will say, "At the New York Hospital," and a half-hour later she will say, "At St. Luke's Hospital." She thinks that she has only been in the institution an hour. (The same remark applies to her condition on the 20th and 25th of November.) She is frequently noisy at night, but has no recollection of it in the morning. When asked where she was on the previous evening, will say, "At Aunt Jennie's," or "At some corner liquor store."

Treatment.—Strychnia, ferri pyrophos, etc.

Nov. 30th.—No mental or physical change. Faradic current to paralyzed muscles and massage ordered.

Dec. 22d.—Out of bed for the first time yesterday; is able to walk a little: mentally unchanged.

Dec. 30th.—Appears to realize that she is an asylum, but is still troubled by hallucinations of hearing, not of sight; memory still defective and has no idea how long she has been here.

Jan. 22d, 1892.—Walks with difficulty, but is able to be out of bed all day. Mentally, is very irritable and abusive; still confused and has a poor memory, also retains illusions of mistaken identity.

R. B., female, æt. 36, married. Denies syphilis, habits intemperate. Present illness commenced three weeks

previous to my seeing her. Onset abrupt; patient can give no account of how she was taken sick or where she was taken to at the time. Has no idea of where she is, except in a general way that it is a hospital, nor how long she has been there. Has hallucinations of sight and hearing, especially in reference to a dog which she constantly begs to have removed from her bed. These hallucinations with delusions are increased at night, the patient becoming very noisy. Events up to the time of her illness are clearly remembered, but events of a few minutes ago are quickly forgotten. The physical signs of the disease were typical: marked paralysis of the lower extremities, loss of reflexes, foot drop, exquisite agony when pressure is made along the nerves and muscles in any attempt to move the patient. Superficial bed-sores, yielding to care and treatment, on both heels and over sacrum. A like condition affected the upper extremities, which increased, showing marked wasting, especially of the muscles of the hands.

The patient continued in about the same mental state up to her death about eight weeks after the onset, due to respiratory and cardiac paralysis.

On autopsy, macroscopically the brain cord and nerves showed nothing abnormal. Microscopically the preparations which were made by Dr. Warren Coleman of the Loomis' Laboratory, showed the following results:

The musculo-spiral nerve and small nerves of the hands showed marked interstitial degeneration, that is, excessive increase of connective tissue, with many nerve fibers destroyed, the axis cylinder having disappeared in part, in others remaining well preserved. The cranial nerves have not been examined.

The cord apparently shows evidence of connective tissue increase, but as it was somewhat softened I would not place much confidence in the examination so far. The brain would seem to show evidence of cell change in the cortex, especially the pyramidal layer, the pericellular spaces being very much enlarged and the cells granular and atrophied. The vessels are enlarged, showing congestion.

I would refer to a case with autopsy, recorded by Korsakow in the *Archiv. für Psychiatrie*, Vol. XXIII.,

1891. The clinical course was almost identical with the last case. The hallucinations especially referring to dogs; the loss of memory of time and place, with delirium, increased at night; presenting also the typical peripheral lesions, with death following from paralysis of the vagus and phrenic. The cause in this case could not be referred to alcohol, but to septic poisoning following extra-uterine pregnancy. The autopsy showed in reference to the brain and cord and nerves the following conditions:

Macroscopically, the brain substance and cord showed nothing abnormal. Microscopically, the peripheral nerves showed degenerative changes, those lying most distal from the cord exhibiting the Wallerian form, those more proximal, were affected in various segments with intervening healthy portions. The brain revealed nothing abnormal. The cord showed in the lumbar region the canal distended and divided into three portions, one extending into the posterior horns. In the cervical region, in Goll's tract and in the lateral tract an increase of connective tissue was found.

The author refers to a case of alcoholic neuritis, with arterial and connective tissue changes.

In conclusion, therefore, from the study of the cases, I believe that in multiple neuritis, especially when due to alcohol, though not necessarily so, we have a disease that affects the brain and cord as well as the peripheral nerves, and that the cerebral symptoms are not infrequently the most distinctive, their special characteristics being loss of memory of time and place, with impaired association of ideas, accompanied at times with hallucinations and delusions. The course of the disease may be acute or chronic, lasting several weeks or months, or even years. An ultimate recovery, partial or complete, occurs even in the most chronic cases. The pathological findings point towards probable organic changes in the brain and cord.

Note on the Hysterical Concomitants of Organic Nervous Disease.*

By C. H. HUGHES, M. D., St. Louis.

THE conclusion, "Some hysteria, *ergo* all hysteria," is a clinical conclusion which has proven in numberless instances fatal to correct diagnosis and to the welfare of many patients.

This neurosis may be latent as any other inherent tendency to neuropathic instability may be and often is, until some psychical or pathological cause calls it into morbid activity. While hysteria is essentially an irritative and functional disturbance of the psychomotor, sensory and ganglionic centers, it is no more unreasonable to expect its development in conjunction with grave organic lesions of the cord or brain than to anticipate pain or spasm from profound central disease or even from multiple neuritis of the motor nerves extending to the cord centers or involving contiguous peripheral sensory nerve fibers.

The time has fully come in the progress of neural pathology and clinical neurology to recognize this fact and realize its true significance in our clinical judgments, for without such proper recognition we may be too often led astray in diagnosis and prognosis for our patient's welfare, or our professional reputations before a scrutinizing and discerning public.

Hysterical patients are prone to develop peculiar inherent neuropathic characteristics of their organism under physical as well as psychical stress and this physical strain may be a real central or peripheral structural disease.

* Read before the Neurological Section of the American Medical Association, Detroit, June 7th, 1892.

It has been quite a number of years since the writer first began to think in this way and ample observation has confirmed the correctness of his earlier judgments, though not until after some serious clinical errors had been recognized after the issue had been determined *post-mortem*.

So far back as 1867, '68, '69, '70 and '71, several of my autopsies, at the Fulton Asylum for the Insane, on patients who had died of organic diseases of the brain and other organs, some of whom had been pronounced only hysteria in the communities from which they came and one or two of whom had hysterical seizures while they lived in the institution, set the author to thinking on this subject and led to a final revision of his previously entertained view that hysteria was always a functional nervous disease invariably only associated with functional nerve trouble.

It was not long after leaving the asylum that a very markedly instructive case, because of its tragic ending, fell under our observation.

The case was that of a lady past the menopause and mother of several grown children, who suffered from disseminated sclerosis, with characteristic pupillary changes, intention tremors and insomnia, and with it numerous hysterical symptoms and frequent paroxysms. Her case had been pronounced by old and experienced physicians to be hysteria and hypochondria (which latter, by the way, is another much misapplied term because it, too, does really, though less frequently, co-exist with grave physical lesion).

A multiple neuritis co-existed in this case and she had exacerbations of neuralgic pains.

This woman really suffered physical agony, but the verdict of her family physician and a consultant from the city that the case was hysteria, lost her the sympathy of her husband and children which she deserved and craved, and in her despair, chagrin and grief, she took her life.

Thos. Buzzard, in his presidential address before the London Neurological Society, in January, 1890, has caught a glimpse of our subject in a little different light. The essay as since published by Churchill, of London, is entitled "The Simulation of Hysteria by Organic Disease of the Nervous System." In this little *brochure* the fact has not escaped this able clinician's observation that hysterical symptoms may co-exist with even so grave an organic disease as disseminated sclerosis, but he thinks it is the sclerosis which causes symptoms which simulate hysteria, whereas we think the hysteria is real and the sclerosis is the *casus mali* that brings into prominent morbid activity the latent functional neurosis.

He even makes certain hysterical symptoms a necessary part of the organic disease he is discussing. We quote :

It appears to me reasonable to conclude that many symptoms which have come to be considered characteristic of hysteria, will, if examined in the light of improved knowledge and experience, be relegated to disseminated sclerosis. The figure of hysteria shrinks in proportion as the various forms of organic disease acquire greater solidity and sharper definition.

But we have not always found this to be strictly true except as the fatal ending of disease approaches, and we have in view one instance in a male in which, though death is impending from probable syphilitic arteritis and gummata with cerebral congestion, the patient has numerous crying spells with spitting out of food and medicine and violent tendencies at times, followed by laughter and tranquillity. The congestion of brain has, evidently, a malarial complication, with cold stage, fever and sweating, followed by reaction and intervening better days.

Buzzard's book is good reading, *apropos* of our subject, bearing in mind the difference of view, viz., that in our opinion the hysterical symptoms are always brought to the surface in persons who have this neuro-pathic diathesis and in no others, by the irritation of an organic disease, while Buzzard regards the hysterical

symptoms as necessary signs of the organic disease. He has found hysterical symptoms in Friedreich's ataxia and secondary cancer. We have one of the latter cases now under treatment or rather as a sequence to a second removal, the patient having also been really insane with delusions of electricity, etc., and periodicity of exacerbation, as of malarial poisoning.

He details a case of hysterical paraplegia dependent on atrophy of the ilio-psoas muscle and a number of cases of disseminated sclerosis mistakenly diagnosed as hysterical, one of them in a male patient, and one case like our own terminating fatally.

We remember to have seen one case of posterior sclerosis in a female in which the pharyngo-laryngeal crises were so distinctly intermittent and the sensation of *globus* was so like that of hysteria that we were often uncertain as to whether the patient did not really have true *globus hystericus* from the irritation of the changes in the pons and medulla and the reflected gastric crisis. She had other hysterical symptoms and had in her earlier life been a victim of this neurosis spasmodica. She died, however, in a cardio-laryngeal crisis.

In the recent publication of the *Salpêtrière Cliniques*,* Volume I., 1892, Charcot relates a case of Morvan's disease complicated with hysteria and several cases of hysterical tremblings have associated variations of intention tremor and vibratory tremor. These were probably, as they were apparently, associated with sclerosis.

Five days ago a lady, now dead of cerebral congestion, came to my office at the instance of Dr. Mayger, of this city, with general hysterical trembling. Her history had been one of mental shock and over nerve-strain.

I have seen a case of abscess of the cerebrum fol-

* *Clinique des Maladies du Systeme Nerveux*, M. le Professeur Charcot pendant les années 1889-90 et 1890-91 sous la direction de Georges Guinon Chef de Clinique. Publications du *Progres Medical*.

"Relation d'un cas type de maladie de Morvan compliqué d'hystérie. Superposition des anesthésies hystériques et de Morvan chez le même individu."

lowing a cerebritis preceded by hysterical symptoms till near the close, and a school teacher of twenty-two years, over-worked and anxious about her ability to continue teaching, developed hysteria along with general neurasthenia and malarial poisoning, the latter ending in cerebral congestion, temporary insanity and death—the hysterical symptoms disappearing as the gravity of the cerebral disease increased.

Hysteria sometimes displays itself in connection with epilepsy mitior as well as in the grave form of hysterio-epilepsia. It has been developed in my observation after diphtheria, scarlatina and rheumatism.

In these instances I have always found a family history of this or other form of spasmodic neurosis. It is not uncommon in ordinary chorea, especially later in life after an earlier chorea; one of my present cases of chorea major shows hysteria markedly. This patient has, since the reading of this paper, died of cerebral congestion and incipient softening. The cortex irritation having passed on to destruction of the psycho-motor ganglion cells of the brain. But these are both ordinary functional nervous diseases.

I think I have seen it in one instance brought out during the convalescence from hemiplegia as chorea sometimes appears.

With these clinical facts before us, are we not justified in extending our search for hitherto unsuspected organic disease of the nervous system as causes of hysterical symptoms, as well as in looking to the womb for the fountain source of this symptomatic neurosis and in relegating to the back-ground the prevailing clinical dictum that, "where hysterical symptoms present, the trouble is only a functional one of the nervous system?"

It is undoubtedly true, as Buzzard has plainly shown, that hysterical symptoms developed *de novo* only in part and as part of the expression of organic nervous disease. I have seen such cases—cases where the mind was for quite awhile in doubt as to the real nature of the disease

—whether organic or functional. As one may see paralysis appear and find the cincture feeling present and the knee-jerks absent in hysteria sometimes, so may he see symptoms of hysteria in real organic disease. I may note here a case of intermitting tremor or rhythmical contractions of the sterno-mastoids, long suspected by myself to have been hysterical, which proved to have been caused by cervical pachy-meningitis of which the patient subsequently died.

As this is but a note of clinical warning we trust this word may prove sufficient to the wise clinician, and with a brief quotation slightly qualified to compass our own view, we close this paper as Buzzard has introduced his able address, our object being "to draw attention to the frequency with which symptoms liable to be looked upon as (solely) hysterical are found to be really due to structural changes in the nervous system" as the exciting, if not solely the causative factor.

Retro-Antero-Grade Amnesia, with Report of Two Cases.*

By J. T. ESKRIDGE, M. D., Denver, Colo.,

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AMNESIA in all its manifestations forms an interesting subject for study and discussion. By a careful analysis of the diseases of memory we can frequently learn more of mind than we are able to do by studying it untrammelled by disease. I desire to report two cases of retro-antero-grade amnesia. The first is uncomplicated by any legal questions and its genuineness is undoubted. It is also comparatively short in duration, but a careful study of its chief features will aid us in arriving at conclusions relative to the law that probably governs the loss and restoration of memory under similar conditions. The second implies a defect of memory extending over a period of more than twenty years, in a man whose general health and business capacity were good previous to a brain disturbance which apparently arose from financial losses, business worry, intense anxiety and heat exhaustion. The suit in this case involves the sum of one or two hundred thousand dollars. It is the first, so far as my information goes, in which retro-antero-grade amnesia has been a cause for litigation. The length of time over which the amnesia extends and the numerous complicating circumstances, together with some conflicting testimony and the evident motive for feigning in this case, require a thorough and exhaustive study of the subject's principal actions over the entire period of alleged amnesia. The second case, then, both on account

* Read at the meeting of the Colorado State Medical Society, held at Denver, June 21, 22, 23, 1892.

of the numerous difficulties encountered in a careful study of it and its great importance from a medico-legal stand-point, will form the basis of this paper.

After giving a short report of Case I., I shall mention some of the legal difficulties that surround Case II., then will follow a rather extended history of the latter, a brief study of some phases of a few forms of amnesia and a review of Case II., with conclusions.

I wish to relieve the apprehensive tired minds of the members of the society to-night, by informing you that I intend to read only a brief synopsis of my paper.

CASE I.—Mrs. R. P., æt. 40, Germany, married, of a nervous temperament, mother of one child, claims to have always enjoyed good health up to July 15, 1891, when she was knocked down and rendered unconscious by a horse running against her. After the accident she remained in an unconscious and stuporous condition for two weeks, and for a period of four weeks longer she seemed queer or dazed. In the latter part of the year 1891, when I first saw her, she stated that the first thing that she could remember after the accident was on the last day of August (forty-five days after the injury) when she saw her husband and son, but also recalls the fact, which her husband substantiates, that she did not recognize who they were but regarded them as strangers. She protested against her husband sharing the same bed with her, saying that it was an outrage that she should be compelled to sleep with a stranger. By the middle of September, or two months after the accident, her mind had considerably brightened and she seemed to appreciate her surroundings.

It is now found that her memory is a total blank for everything that occurred from June 20th to the time of the injury, July 15th, a period of twenty-five days preceding the accident, although during this time she exhibited as great a degree of intelligence, and possessed as good memory as at any former period of her life. Neither does she remember anything from the time of the accident, July 15th, to August 31st, a period of forty-six days. We have here a condition of total amnesia of the retro-antero-grade type, extending over a period of seventy-one days, the former (the retrograde)

including twenty-five days of this time, and the latter (the anterograde) forty-six days of it.*

I am informed that the law of Colorado, or the statute of limitation, is, that if a person holds a piece of real estate as his own and pays taxes on it for a period of five years, and his title to the property should not be contested during this time, he then becomes the real owner of the property by virtue of the fact that he held uncontested possession of it for a period of five years, and complied with the law of the State in paying the taxes on it during this time.

The plaintiff, whose history forms Case II., brings suit to recover land that another had held uncontested possession of and paid the taxes on for a period of twenty-three years.

Of the two principal questions that have arisen in this case, one is purely legal, Was the land held in trust by I. for A.? and the second is purely medical, Was the mind of A. so impaired by reason of his amnesic condition, during these twenty-three years that he could not recall the transaction regarding the land?

Of the purely legal aspect of the case I have nothing to say. That A. is not an impostor is quite certain.

The history of this interesting case is as follows:

Andy M. A., æt. 61 years, born in Pennsylvania, cattleman by occupation, came to Colorado about thirty years ago.

Family History.—His father died, aged about fifty, after an obscure illness, lasting only twelve hours. As he retained consciousness to the last, was not paralyzed and suffered no pain, we can probably exclude any brain trouble. There is no suspicion of nervous or mental disease in any member of his family.

Personal History.—During childhood, with the exception of suffering from some of the acute exanthemata

* As this case presents many interesting features besides the amnesia here recorded, I intend to publish it in detail as soon as convenient.

which left no appreciable sequelæ, his health was excellent. At his twenty-second year, or in 1853, he was ill from typhoid fever. His recovery from this seems to have been complete, and he remained well until 1863, when he suffered from a severe attack of small-pox, which left him severely pitted, but after convalescence, his health was excellent. He was strong and rugged, weight about two hundred and thirty-five pounds, and with apparent impunity he endured many hardships in his life on the plains. He has never been accustomed to more than a very occasional and sparing use of alcohol, and he denies syphilis or venereal excesses. His occupation was trading in cattle, and by 1865 or 1866 he had accumulated a competency of more than one hundred thousand dollars. In 1866 he sold cattle to various parties in Denver, and among these was one Eastman, who bought two thousand dollars' worth. During this year he secured a contract from the U. S. Government to deliver five thousand beef cattle to the Government post of the Indian Reservation. These cattle were to be delivered in the summer of 1867, and the U. S. troops were to protect the cattle and men from Indian depredation. In January, 1867, when A. demanded pay of Eastman for the cattle sold him in 1866, the latter was without cattle or money, but deeded, at the request of A., one hundred and sixty acres of land, situated several miles from Denver, to a third party in trust for A. The land was then estimated to be worth about five hundred dollars. It is now estimated to be worth from \$100,000 to \$200,000. The third party, the confidential and trusted friend of A., was to hold the land in trust for the latter until it became of sufficient value to pay his claim against Eastman, when he was to sell it and pay A. The latter apparently never told his wife of the transaction, and the only allusion he made to her about the land was to inform her on the same day of the execution of the deed in trust that he had bought her a farm on the sand hills.

In the spring of 1867, A. went to Texas, and bought between five and six thousand beef cattle, out of which he intended to supply his Government contract. These cattle were valued at one hundred and fifty thousand dollars. In June of the same year, while these were being driven north from Texas, the Indians attacked and captured the entire herd. Mr. A. suddenly found himself bereft of all his property, and owing money which he had no means to pay. The next three years, from 1867 to 1870, he spent in trying to get the Government to reimburse him for his losses. This was attended with a great deal of labor, hardship and anxiety. He was compelled to make repeated and prolonged visits to the Indian Country, and secure from the families and tribes in council their acknowledgment of having committed the depredation. He also spent much time in Washington, in urging senators and representatives to press his claim, and finally several months were consumed by him in visiting the various departments to see that his claim was not allowed to be pigeon-holed.

In 1869, he invented and had patented a lock which was adopted by some of the railroads for their freight cars.

While engaged in urging his claim, on a hot spring day of 1870, he was apparently exhausted by fatigue and exposure to the sun's rays, fell on the street, and was taken home in an unconscious condition. He soon recovered and again resumed the pursuit of his Government claim. Shortly after this attack, in the latter part of the spring of 1870, he obtained from the Government seventy-three thousand dollars. With this he paid his debts, and had about thirty thousand dollars left. For a few weeks after his first fall on the street, he complained of a great deal of headache and exhaustion, and often remarked that he must be getting softening of the brain.

Shortly after securing the money from the Government, during the summer of 1870, while walking along the streets of Washington in the sun, to use his own words:

"I felt a very tired sensation as though I was carrying a heavy load, and started to go home, got as far as the gate of the Smithsonian Institute, and the rest is a blank for a long time." He was taken home in a stupid or semi-conscious condition. He was confined to his bed a number of weeks, seemed dazed and was delirious part of the time. He complained a great deal of head pain and disorder of the stomach. After a few weeks he was able to walk, but he seemed in a semi-demented condition. He never referred to business, and appeared to take no interest in anything except his own sufferings. He had lost nearly all memory of recent events.

In August, 1870, he was removed to Newark, N. J., where he remained until the summer of 1871. During the first week there he was confined to bed, and complained much of headache. The next three weeks he was up most of the day and walked around considerably, but still complained of distress in his head and seemed dazed. At the end of his first month's stay in Newark, he fell on the street, was taken home in an unconscious condition, and remained in this state for several hours. Following this attack he was confined to bed about three months, and became greatly emaciated. During this time he was paretic on the left side on several occasions for days at a time. His head and stomach were complained of bitterly. His mind seemed worse, and he was, from the description of his condition, partially demented. He was depressed, apprehensive, sleepless and, at times, the subject of delusions. He had great fear of being left alone, and someone had to sit beside his bed at night and hold one of his hands before he could be gotten to sleep. In the spring of 1871, he began to improve some in health and was able to take walks, but it was observed that when he would go on the streets, he would walk in the middle of the streets. When asked why he did this, he would say that he was afraid the houses would fall on him if he got close to them. At this time his memory for recent events was very poor. He could not recollect what had

been told him a few days or a few hours before, and his conversation was generally on the incidents of his early life, and especially about his encounter with the Indians. It appears from the testimony that during his entire sojourn in Newark, he was nervous, hypochondriacal, melancholiac and child-like.

In the fall of 1871 he was taken to Sacramento, California. His weight then was ninety-five pounds. His weight before the beginning of his troubles was two hundred and forty pounds. He improved some in health soon after reaching California, but still remained feeble both in mind and body. He remained in California from 1871 till 1880. During this time he was trying to do some business in connection with the manufacture of a lock that he had invented in 1869, but all his business ventures were failures. He was somewhat visionary in regard to the success of his lock. Soon after reaching California he again fell on the street and had to be taken home. After he had been in California some years, he awoke an old friend one night by making such a noise that he could have been heard several blocks distant. His friend took him into his house, and sat up with him all night. It was found in the morning that A. had forgotten everything that had occurred the night before. During his stay in California he was observed by all to be eccentric, and by his friends and those who knew him best, to be unbusiness-like, and to have an exceedingly poor memory. His conversation, when he would talk, was about his lock, his illness, the incidents of his early life and his Indian stories. Not one of the many witnesses in California, both for the plaintiff and defendant, ever heard him refer to the land transaction now in dispute. On one occasion, in 1875 or 1876, he drove from his house to a hotel in San Francisco, where he transacted some business and walked back home, a distance of a mile or more, and when asked where he had left his horse and buggy he was unable to tell. At times he shut himself up in his room, and told people that he did it for fear he

might kill some of his children, especially the one to whom he was greatly attached. In his business he would give orders one day and the next day declare that he had never given such orders. With all his peculiarity and lack of memory, he showed a considerable amount of perseverance in connection with his lock business, was at times able to drive a good bargain and talked intelligently and well on the subjects on which he was accustomed to converse when in a talkative mood. It seems, however, that he was disinclined to talk much to anyone, except to those who had his confidence, and only to them on his pet subjects.

After carefully studying several hundred pages of sworn testimony taken in California, of numerous witnesses who had known him quite intimately for years, I fail to find a single intimation that he ever discussed the topics of the day.

In 1880 A. returned to Denver. He was then in a feeble condition physically, his memory was weak and his judgment was untrustworthy. During the time he remained in the city, which was only two weeks, he spat blood once or twice. Whether the blood was from the stomach or lungs it is impossible to determine at this time. He remained in Colorado several months, was aided by friends in starting in several petty business enterprises, but he made failures of all, as he appeared totally incapable systematically to attend to anything.

In the latter part of 1880, he went to Albuquerque, N. M., soon began to improve in health and tried various means to gain support for himself and family. A., with a partner, secured a contract to supply a railroad with ties, but soon abandoned the enterprise and seemed disinclined to talk about it. The next year he secured another contract of the same nature and had, associated with him, a friend. A.'s business was principally to look after supplies for the camp, but when he went to town, a distance of 130 miles, with written orders for supplies, some he had filled and others he forgot. It was found impracticable to

depend upon him to attend to any business. It was noticed that he would wander in his conversation and quickly forget recent events.

On one day he told a friend the particulars of his father's death three times. Even after he had been in New Mexico some years, he would, when the state of his health was inquired into, reply that he never felt better, but in a few minutes afterwards he would complain of very bad health, his stomach and his head still being the principal subjects of complaint.

In 1883 he testified quite clearly concerning a loan made by him in 1866, to leaving the note in the hands of a third party for collection in 1867, to the contents of two or three letters written by him in 1868 and 1869 concerning the collection of the money, to the contents of the letters in answer to those he wrote and to particulars that occurred in 1880, when he met the man to whom he had lent the money in 1866 and found that he had paid the third party, and to the circumstance of meeting the third party in 1881. It must be remembered that in regard to this transaction that A.'s wife was fully conversant with all the facts and urging him to proceed in a suit against the party who had defrauded him out of the amount of the note. The letters written in 1868 and 1869 concerning the payment of this note and the appointment of a party to collect it, were known to her, and they talked over the matter after their losses in 1867, when they were sorely pressed for the necessities of life. The occurrences in connection with A. meeting the parties in 1880 and 1881 were well known to her, and they had frequently discussed them.

Mr. A.'s health, both mental and physical, continued gradually to improve during his stay in New Mexico, but at its best, he was easily exhausted, soon discouraged, and his memory was not to be depended upon. He was in this condition in 1886 or 1887, when, while walking along the streets of Albuquerque, he heard a man selling goods at auction, and the voice seemed so familiar that

he was induced to go into the store. The man's face appeared familiar, but he could not recall his name or the circumstances under which he had known him. This person was Eastman who had deeded the tract of land in Denver in trust to a third party for A. Eastman had to detail the particulars of past events before they could be remembered by A., and the latter could recall the land transaction only after he had been informed by Eastman of the one hundred cows by which he had come into possession of the land. Mrs. A. was given by Eastman, on this occasion, an account of his deeding the land in trust to a third party for A. This seems to have been the first information she ever received of this particular transaction. A. seemed to think that he owned the land, but was discouraged at the thought of exerting himself to gain actual possession of it, and told Eastman that he could do nothing with it unless his mind became better. Eastman and A. came to Denver, and the former located the land for the latter. Inquiry of friends in Denver and consultation of old records revealed other transactions that had been forgotten, but A. said he was sick and unequal to the task, and returned home to Albuquerque. After this he was indifferent about the matter, and again became interested in his lock which he had invented in 1869. It was only by the efforts of Mrs. A., who mortgaged her homestead to raise money, that A. was induced to come to Denver, in 1890, and begin suit.

A great deal of time was spent in gathering testimony from persons who had known A. before his losses, in 1867, and during his illness in Washington, Newark, California and New Mexico, so that the case was not set for a hearing till May the 24th, 1892.

On May 12th, 1892, I was requested by the attorneys for the plaintiff to investigate the mental condition of A., from 1867 to the present time. After carefully studying the several hundred pages of sworn testimony by witnesses for the plaintiff and defendants, concerning A.'s mental and physical condition, during these years, I became convinced

that he was, during the greater portion of this time, if not during the entire period, mentally unsound, but that it was not dementia, as his attorneys thought, although during a number of years, he was partially demented. It seemed to me a condition of retroanterograde amnesia—a name first applied to this peculiar mental state by Charcot, in 1892, in his description of a case that came under his observation (*Rev. de Med.*, March, 1892).

After inquiring into A.'s family history, and into his personal history up to 1866, I requested him to write, for me, most of the important occurrences of his life from 1865 to 1890, giving the events he could now remember assisted by written records or by his family and friends in recalling events to his mind. On his giving me these recollections, I asked him to write, for me, all important events of his life from 1865 to 1890, in the recollection of which he had been unassisted by any of the above means. This last request confused and puzzled him, and it was several days before I could get him to submit anything relating to the subject. He said his mind was unequal to the task and he would have to give it up. Finally he brought me his second paper, containing his effort to separate his unassisted from his assisted recollections.

Although the first paper is rather long and tedious reading and the second contains in an abbreviated form the main facts of the first, yet they are both so important, in a study of his memory, that I will submit them in full as he wrote them:

Paper No. 1.—"Lived at Fort Union, N. M., 1865. My eldest boy was born ——. Remember John Iliff was with me there, 1865. (I) was furnishing cattle to the Government, 1865. Sold Williams, Geo. Brown, Cole and Roberts 1,500 beef steers delivered in Denver, 1865. Took a Government contract to furnish 5,000 beef steers for Indians, at Fort Sumner, 1866, to be delivered in Spring of 1867. Went to Texas and bought a large herd of cattle in 1866. Took this herd to Denver in the fall for sale. Iliff assisted me collecting and keeping charge of my money. Moved my

family from Fort Union, N. M., to Denver, summer, 1866. Left Denver in the last of Jan., 1867, to go to Texas to buy cattle to fill my contract in New Mexico. Took my family with me in the coach. Left them at my brother's in Illinois. Went on to Texas, bought large herds of cattle in March, April and May of 1867. Started the cattle on their road to New Mexico in charge of my men. Turned back through Texas to Illinois, got my family and left for Denver. When near Denver, at O'Fallen's Bluff, the Indians attacked the coach we were in. Had a hard fight for our lives: lost but one man. Came on into Denver and there for the first time learned that the Indians had captured all my cattle and outfit on the Pecos and Concho rivers. This more than ruined me financially—left me in debt. I left my family, went down from Denver into New Mexico and got some money—several thousand dollars I had at Union and Santa Fe. Moved my family to Council Grove, Kansas. This all occurred in the spring and summer of '67. I made out a claim against the Government for the loss of my stock by the Indians in the fall of '67 and traveled down through the Indian country, suffering many hardships that none but a hearty, strong man, could endure, trying to locate the Indians that commit the depredation on me. I found the Indians and many of my stock (horses and cattle) with them, and the chiefs of the different tribes acknowledged the depredation. With these proofs I went to Washington in the fall and winter of '67 and presented the proofs of my losses to the Government, only to be told by the Secretary of the Interior that he could not allow my claim until I could get all the wild Comanche Indians together, men, women and children, and have them acknowledge in open council that they commit the depredation. I went home to my family all broken up but not whipped. It would take me too long to tell you how I accomplished this task and of the suffering and trouble it cost me. I was two years—'68 and '69, working at it—but I done it to the satisfaction of the Government and the Government allowed my claim—paid

me \$73,000, after six months, in 1870, of hard work in Congress and the departments, which was the worst of all work for me, as I was used to live out in the open air. I paid all my debts and had moved my family the year before from Kansas and lived in South Washington. One day I felt a very tired sensation, as though I was carrying a heavy load, and started to go home—got as far as the gate of the Smithsonian Institute, and the rest is a blank for a long time. I remember of being in California, but not the year. I remember of being in Sacramento and of doing some work there. It seems like a dream. I remember San Francisco better. My oldest boy died there with scarlet fever, and I remember what terrible sufferings I endured from stomach trouble and want of rest and sleep. There would be some days or parts of days while there that I would feel better than others, so that at times I could do some little business. We were living in San Fran, and I remember of us living in Alameda, across the bay from San Francisco; of living in Humboldt Co., Cal.; of having something to do with a lock factory in San Francisco; but such a sufferer from my diseased body and mind, can remember but little else than the misery I endured. In 1880 I remember of leaving California to go back to N. M.; that a man by the name of Stager came with me to help me on the road; that we stopped at Mr. Cole's, in Denver, a week or two, as I was very low and weak. Went to see Dr. Wilson, as there was times while there that my mouth would fill with blood. Where it came from can't say. It seemed to come from my throat and stomach. Got into N. M. in the fall of 1880.

"Commenced to recover at once but very slowly, and lived in Albuquerque, gaining a little each year until 1886, when I felt much better and was able to manage business matters.* Since that date I can recall and remember things that have happened previous to my sickness in Washington quite clearly, when something or

* Wife states that he has been unable properly to manage any business, from 1870 till the present.

someone recalled to my mind. About that time I met a man in Albuquerque by the name of Eastman. When I first saw him I could not recall his name, but after talking with him and speaking of the past events, I remembered him well; he was in the employ of Lincoln & Stricker, at the Elephant Corral, in Denver, in the fall of 1866, and assisted in the sale of the large herd of cattle I brought to Denver at that time. He asked me what I had done with the land I bought of him in Denver? Not until he spoke of the hundred cows I gave him for it, did the whole circumstance come into my mind, and then I remembered what I had done with it, that I had left it with John W. Iliff, to be held in trust for me. I did not take any steps to try to reclaim my land until 1890, for the reason I had no means to defray the expenses. I came up to Denver in '90, and there learned by talking to my acquaintances, and the records and old-time friends of the past events, that I had not only left the land with Iliff, but that I had left with him \$12,000 worth of other property, that I had money coming to me from Dick Outan, Zan Hicklan and Maxwell, amounting to more than \$25,000. All this I lost, for all recollection of it went out of my memory during my sickness—it was surely gone from my mind, or there would have been someone to have made an effort to get something for me during all these years of suffering and want. You might ask where was my wife? I will tell you that I was at home but a very small portion of my time, so little, that my children scarcely knew me, and in those days a man's word was as good as his note—we took no obligations in writing.

“A. M. ADAMS.”

Paper No. 2.—“In trying to separate what I can remember of past events from what my family know of the last twenty-five years can't be done. Of course all the events of my life have been talked over by my family in my presence, since I was taken sick and after I

commenced to recover. It seems impossible for me to tell what portion of my present recollections I received from them. I can recollect incidents of my early life, and of coming to Colorado and living among the Indians before I was married or taken sick in Washington, and I am certain that no one can make me believe that things did occur that did not occur before I was taken sick. Maybe you don't understand me, I mean to say when I am told of an occurrence that happened before I was taken sick and had gone out of my recollection, I know whether it is true or not, one thing I do know, I have no recollection of occurrences that happened from the time I was taken sick in Washington until I found myself in Sacramento, California. There is something wrong somewhere, and I can't get it right, it does seem to me that I am or have to depend a good deal on my family for the events and occurrences of my life, since I lost all my property by the Indians in the spring of 1867. My family did not know anything of the Iliff affair, and it went out of my recollection; they did not know that Maxwell owed me a large amount of money, and it went out of my recollection; they did not know that Outan owed me for a large herd of cattle, and it went out of my recollection; that Hickland owed me for the same, and it went out of my recollection; or that I had given Lyman Cole a herd of cows, and knew nothing of it until he told me last year (1891). These circumstances have been brought to my memory by friends and acquaintances in the last three years. If I had known these facts before it was too late to profit by it, it would surely kept me out of want and misery all these years, but my family did not know it, but when called to my recollection by others, I can remember them well, and know that it is true, that each circumstance can be proven. I believe the facts in the case to be, I was not crazy or drunk all those years, but that my memory was gone, and that I have to depend on my family for what I know of what transpired during the

years from 1867 to 1887. I had no idea you would ask me the questions you have, and I have done the best I can to answer you and given you my reasons for thinking as I do and hope this will be what you want.

"A. M. ADAMS, Denver, May 15, 1892."

Mr. A. is a man with a large frame, and now weighs from one hundred and eighty to two hundred pounds. He registers on the dynamometer, R. 180; L. 182. There is no ataxia, paresis, paralysis or loss of any form of sensation. The reflexes, deep and superficial, are in about a normal condition. On the day of his first visit to me, May 13, 1892, his tongue was in a fair condition, his breath was free from an offensive odor, he said he had no pain and his mind seemed to act fairly well. I wished to test the effect of mental exertion on him, and, after questioning him twenty or thirty minutes, I told him to go home, and write out the important events that occurred in his life between the years 1865 and 1890 of which he had any memory at present, no matter if his memory of these events had been assisted by others. I insisted that I must have these data within twenty-four hours. This was about 9 A. M. At about the same hour the next morning, he brought me paper No. 1, looking greatly fatigued, and complaining of his stomach. He said the task had been too much for him, and before he got through with what he wrote, he was very tired and found it difficult to think. I told him that he must try to do what I asked him, as my connection with the case would depend upon whether he did his part honestly and faithfully. I then requested him to write, for me, by the next morning, what important events of his life from 1865 to 1890 that he could remember of himself, and for these recollections he must have had no assistance of any persons or records from the time he was taken sick up to the present. Promptly at 9 o'clock the next morning, he presented himself at my office, but this time with one of his attorneys, Judge Stuart. Mr. A. looked worried and haggard, and said

that he could not write what I wanted and would have to give it up. I told him that he must do it, and gave him two days in which to perform his task. At the appointed time he appeared with paper No. 2. On this occasion he really looked sick. He had a haggard, careworn expression, his conjunctivæ were yellowish, his tongue was heavily coated, his breath had a sour and an offensive odor, he complained of pain in his stomach, and of a confused, dull, heavy sensation in his head. He appeared despondent, and asked me to examine his stomach to see if he was suffering from cancer of that organ. I, again, began to question him on what he could remember from 1867 up to the present, and he answered me fairly well for a few minutes, but soon he commenced to get the dates mixed, and finally he said he could not seem to think clearly. I pressed him for a while, but I only succeeded in confusing him. I had requested Judge Stuart to have my friend, Dr. Pershing, associated with me in the case, and I requested Mr. A. to call on him that morning and let him make any necessary examination and ask what questions he saw proper. At first he said he was too sick to go, but as he had to go to New Mexico that night, he said he would go and get through with the physicians. I learned afterwards that he did not call on Dr. Pershing that day, and it was only by chance that the doctor got an opportunity to examine him before his case was heard by the Court.

We were both agreed that A. suffered from amnesia, extending backward some three or four years from the time of his severe illness in Washington, and forward from it up to 1887 or 1890, in fact, it appears to us that his consciousness is at present somewhat restricted, owing to a condition of partial amnesia that may at present exist. This view is substantiated by the fact that he had no knowledge, in 1891, of the disposition of a herd of cattle in 1867 until he was told of it. How many transactions he does not remember probably will never be known.

Before reviewing A.'s case and giving the reasons for the conclusions arrived at from a study of it, it seems to me that I may, with profit, devote a short space to the consideration of consciousness and its defect in amnesia. When a person is in a condition of complete consciousness he registers the impressions to which his attention is directed at the time and correlates these impressions with a summary of past recollections (see Spitzka on Insanity). It is not sufficient for one to remember a summary of past recollections and register the impressions of the present, to which his attention at the time is directed, but he must harmonize or correlate the present with the past. A failure to do this gives rise to a condition that has been termed double consciousness (present and past), a state in which the present *ego* may hold a discussion with the past *ego*, but of this interesting condition we have nothing to do in this paper. Whether there is an inability to correlate a summary of past impressions with those consciously registered at the present, whether there is a lack of power to remember past impressions in sufficient number and intensity to form an experience upon which to base a sound conclusion, whether there is simply a failure on the part of the brain to register present impressions in sufficient number and intensity to constitute a healthy present *ego*, whether both the present and past *ego* are pathologically feeble, or whether one or both selves are nearly, if not completely, destroyed, consciousness is defective, and in proportion to that defect is the mind impaired. We may go further and affirm that whoever has had his memory disturbed by a period of complete or partial amnesia, unless an entire restoration of memory for that period take place, can never have a complete healthy consciousness. There will always be a gap in it, and for failure in subsequent years to comply with the law in relation to contracts or agreements made during that period the individual should not be held accountable.

In studying the memory of any individual we should

bear in mind the fact that some persons are naturally, or from force of habit, forgetful and absent-minded. A degree of absent-mindedness or forgetfulness, natural with some, suddenly developed in a person who had always before shown a good memory for such things, and had exhibited a watchfulness and appreciation of passing events, would be a sign of disease.

"Memory," according to Mercier, "is the recurrence of a mental state that had occurred before." Ribot says the process implies conservation and localization in the past. It is probable that memory is divisible into as many forms as there are classes of things to be remembered. We know that memory for different objects is unequally developed in various individuals, and this in many persons at first, at least, seems independent of the attention given to developing the memory in certain directions. Some persons have little difficulty in remembering forms, as the features of individuals; some can most easily recall a person by the sound of his voice, and in some, visual memory is most acutely developed, as seen in the artist. If we accept this view of the divisibility of memory, we shall have little difficulty in understanding the various partial amnesias that sometimes occur.

Amnesia may be partial, as when the loss of memory is limited to certain objects or classes of objects, leaving the entire remainder of the storehouse of memory uninvaded, or it may be complete, extending over a greater or less period of one's life, and causing complete disseverance of mental integrity. It will be impossible without extending this paper to undue length to consider the different forms of amnesia. I shall be content to consider the most salient features of the best studied forms of the diseases of memory, and endeavor, if possible, to arrive at certain conclusions that may aid in diagnosing real from feigned amnesia. For this purpose I shall limit my remarks in this paper to the consideration of certain of the complete amnesias, leaving the partial

for a time when a case may occur requiring a minuter study of them.

The best known of all forms of amnesia is the progressive variety, usually known as dementia. In this variety there are certain laws which are apparently constant, both for the destruction of memory and its restoration, when recovery takes place. In this form of amnesia mental impressions are obscured or obliterated in an inverse order to which they were registered in the brain. First, the memory is weakened for recent events but soon the affection extends to ideas, then to sentiments and affections, and finally, to actions (Griesinger). As destruction goes on, there is complete amnesia for recent events, and as feebleness of memory increases, period after period of the life of the individual, extending in this inverse order, is dropped from the memory until only the incidents of youth or childhood are retained. At this stage, as all higher cerebration is stopped, and the registrations of the complexities of life for the time, at least, are absent from the consciousness, it is not surprising that there should be exhibited by one so demented a detailed memory for the trivial events of early life. When this condition is recovered from, as it has been in a few isolated cases, memory is restored in an inverse order to which it was lost. The last things forgotten are gradually revived and the process may go on until complete restoration takes place, the first thing forgotten in this process of dissolution, all things being equal, being the last thing to return to the memory in the process of restoration.

If, then, we bear in mind that the things that make the most impression upon the mind at the time of their occurrence are remembered with greater tenacity than those that left little impression, we have in the law of destruction and restoration of memory in progressive amnesia an absolute guide to enable us to determine whether the alleged loss of memory is real or feigned. We must, under such conditions, however, carefully

study the character and temperament of the individual and the nature of the circumstances under which certain things took place. What may most impress the mind of one individual may have but little effect upon that of another, and circumstances may have been such as to impress most indelibly a trivial occurrence upon the mind. Another warning is necessary here. We must be careful to separate what is remembered of one's own powers of recollection from that which has been recalled to it by persons, records and circumstances. There can be no absolute law to govern the return of memory when it is assisted by these means. Under these circumstances that which was first forgotten may be the first to be remembered if some one recalls it to the mind of the individual.

Amnesia, suddenly developed from brain disturbance, may be partial or complete. In some instances the amnesia assumes the retrograde type, and extends backwards over a period of days, weeks, months or years prior to the brain trouble which gave rise to the loss of memory. In other instances the amnesia takes the anterograde type and extends over a variable period following the brain injury. The most common type of the amnesic period, developing suddenly after brain injury, is the retroanterograde variety, in which the amnesia extends backwards and forwards over variable periods preceding and following brain disturbance.

Concerning the manner in which memory for these periods is sometimes regained, Ribot ("*Diseases of Memory*," page 80) says:

Sometimes memory returns of itself and suddenly; sometimes slowly and with assistance; sometimes the loss is absolute, and complete re-education is necessary.

Of the purely retrograde variety of amnesia, a case given by Ribot, but copied from the Letters of Charles Villiers and G. Cuvier (Ribot, "*Diseases of Memory*," page 80), is typical:

A young woman, married to a man whom she loved passionately, was seized during confinement with prolonged syncope, at the end of which she lost all recollection of events that had occurred since her marriage, inclusive of that ceremony. She remembered very clearly the rest of her life up to that point. At first she pushed her husband and child from her with evident alarm. She has never recovered recollection of this period of her life, nor of any of the impressions received during that time. Her parents and friends have convinced her that she is married and has a son. She believes their testimony, because she would rather think that she has lost a year of her life than that all her associates are impostors. But conviction and consciousness are not united. She looks upon her husband and child without being able to realize how she gained the one and gave birth to the other.

The most curious case of purely retrograde amnesia is one reported by Brown-Séquard (Ribot, page 96). The person after an attack of apoplexy, lost all recollection of five years of his life. These five years, which comprised the period of his marriage, ended just six months before the date of the attack.

Carpenter, in his work on "Mental Physiology," relates the following case, which is an example of temporary amnesia from cerebral shock, extending backwards from the time of the accident:

A gentleman was driving his wife and child in a phaeton, when the horse took fright and ran away; and, all attempts to pull him in, being unsuccessful, the phaeton was at last violently dashed against a wall, and Mr. H. was thrown out, sustaining a severe concussion of the brain. On recovering, he found that he had forgotten the immediate antecedents of the accident, the last thing he remembered being that he had met an acquaintance on the road about two miles from the scene of it. Of the efforts he had made, and the terror of his wife and child, he has not, to this day, any recollection whatever.

Anterograde amnesia may be partial or complete. The amnesic condition following attacks of epileptic seizures, whether convulsions accompany them or not, is the best illustration of the anterograde type. Dr. Hammond relates the case of a man subject to epilepsy, in whom the amnesic condition lasted, on one occasion, eight days. During this time he remained away from home, attended theaters and traveled long distances. On regaining consciousness, he remembered nothing of what he had done

during the amnesic condition. Dr. Mills, of Philadelphia, in a clinical lecture, delivered in 1887, gives the histories of three cases of epilepsy, following injuries to the brain, in which occurred periods, lasting from a few minutes to several days, of disturbed consciousness and more or less complete amnesia. One man traveled several hundred miles in a direction he had not intended going, only coming to himself in a strange city a long distance from home.

Dr. Tucker, of Colorado Springs, tells me that he was thrown from his horse a few years ago and rendered, for a brief period, amnesic. He remembers rising to his feet and seeing his horse gallop off and people running toward him, some of whom he recognized. The next that he remembers was being in his office. He has no personal knowledge as to how he reached his office, but was afterwards informed that he walked there, a distance of several blocks. In this case there was a short period of bewilderment, with a vague memory of what took place, followed by an interval of some length of complete amnesia. Dr. Tucker has given me an account of another case, of which he was cognizant, somewhat similar to his own personal experience, except in the tragical homicide which resulted from it. A gentleman was thrown from his horse, which he remounted and rode some distance after the fall, when on meeting a man whom he had never seen before, he drew his revolver and shot him, causing almost instant death. The last thing that was remembered by this man was being thrown from his horse. He did not know how long he remained on the ground, how he managed to remount, or how far he had ridden after the fall before he shot the stranger. (See these and other interesting cases in an article by the author, in the *ALIENIST AND NEUROLOGIST* for January, 1888.)

It is more common in cases of temporary amnesia resulting from cerebral shock to find that the amnesia extends backwards and forwards from the time of the accident, producing what Charcot has well labeled retro-
anterograde amnesia.

For example of retroanterograde amnesia, no better can be found than Case I. in this paper, and the one reported by Charcot (*Rev. de Med.*, March, 1892), a brief review of which is given in the *British Medical Journal* for April 4, 1892:

A woman, aged 34, previously well, suddenly received a (false) report, on August 28, 1891, that her husband was dead. She became delirious with hallucinations, and later lethargic, the whole attack lasting three days. It was then found that she had lost all recollection of events occurring between July 15 and August 28 (a period of retrograde amnesia), although it was ascertained that her memory during that period had been perfect. Events which occurred before July 15, were very clearly and exceptionally well retained. Why the loss of memory should have begun on that date, no sufficient reason can be given, but this is noted also in traumatic amnesia. After the attack she could apparently hardly recollect anything of what was going on around about her, but that events were registered is clear from the fact that they were reproduced in sleep and in the hypnotic state. This condition would thus seem less grave, as it shows only a dynamic loss and not a destructive amnesia. Thus, for instance, the fact that she had been bitten by a dog in October (that is, within the period of anterograde amnesia), was absolutely forgotten in the waking state, but clearly recollected in the hypnotic sleep. Although there was no marked evidence of hysteria, Charcot thinks that the case is of that nature, and that the patient had passed through a delirious phase of that disease into this amnesic state. The long duration, namely, four months, is not astonishing when compared with hysterical vigilambulism. A slow recovery, with the help of suggestion, is to be anticipated. (A note made in 1892—that is, nearly a month later—shows that the patient had already begun to improve).

We have seen that in progressive amnesia the failure of memory follows a regular order, from the less stable to the more stable registrations in the brain, from the psychical or poorly organized memories to the dynamical or highly organized memories, from the complex to the simple acquisitions of mind; and that in the restoration of the faculty of memory, in these cases, the process is in an inverse order to its destruction.

Unfortunately but few of the cases of retroanterograde amnesia have been sufficiently systematically studied at the time of their occurrence to enable us to form any very definite conclusion from an analysis of them. But we shall find from a careful analysis of the various forms of amne-

sia suddenly developed from cerebral shock, that much may be gathered that will aid in differentiating real from feigned amnesia.

In the stage of returning consciousness from the amnesic period of epileptic seizures, especially when there has been no convulsion, it seems to me that we ought to have a more or less fruitful field from which to glean knowledge relative to the method in which consciousness returns after it has been suddenly obscured or obliterated from cerebral disturbance of any kind. It is a matter much to be lamented, however, that the amnesia of epilepsy has apparently never been studied with this object in view. Patients have told me that everything seemed indistinct to them on their first regaining consciousness after an epileptic seizure, in which no convulsion occurred, but I have failed to inquire in what order consciousness has returned.

A case is reported by Dr. J. Mortimer Granville in the journal *Brain*, for October, 1879, and quoted also by Ribot, in which the method of return of consciousness is studied, but less in detail than what is desirable.

A young woman, aged 26, hysterical and choreic, who, after a paroxysm of considerable violence, fell into a state verging on suspended animation.

When consciousness began to return, the latest sane ideas, formed previous to the illness, mingled curiously with the new impressions received, as in the case of a person awaking slowly from a dream. When propped up with pillows in bed near a window, so that passers in the street could be seen, the patient described the moving objects as trees walking, and when asked where she saw these things, she replied, "in the other gospel." In short, her mental state was one in which the real and ideal were not separable. Her recollections on recovery and for some time afterwards were indistinct, and, in regard to a large class of common topics which must have formed the staple material of thought up to the period of the attack, memory was a blank. Special subjects of thought (religion, etc.), immediately anterior to the malady, seemed to have saturated the mind so completely that the early impressions received after recovery were imbued with them, while the cerebral record of penultimate brain-work in the life before the morbid state was, as it were, obliterated. For example, although this young woman had supported herself by daily duty as a governess, she had no recollection of so simple a matter as the use of a writing implement. When a

pen or pencil were placed in her hand, as it might be thrust between the fingers of a child, the act of grasping it was not excited, even reflexly; the touch or sight of the instrument awoke no association of ideas. The most perfect destruction of brain tissue could not have more completely effaced the constructive effect of education and habit on the cerebral elements. This state lasted some weeks. Recovery of the memory was slow and painful, requiring a process of re-education. (Ribot, "Diseases of Memory").

The records of the case, just quoted, are of more value for our purpose than what at first thought they might seem. It is natural to infer that the memory for the use of instruments employed by us in our daily occupation become stable and ought to be classed as organic. If this be the case, such things ought to be the last to be forgotten of the acquirements learned before the amnesic period, save the impressions of childhood and youth. If we remember, however, that the patient was emotional, hysterical, and probably much given to dwelling on religious subjects prior to her illness, these circumstances would be sufficient to cause a confused memory of religious things to be retained, while the knowledge of the use of a pen or pencil, so laboriously gained by years of toil, might be completely obliterated.

Several cases of amnesia following an acute illness are on record in which a process of re-education has been necessary, and one remarkable feature about some of these is that whilst the re-education for many things simply consisted in friends and neighbors recalling them to the minds of the amnesiacs, yet they seemed to have no recollection of ever having possessed this knowledge before.

In two cases of amnesia quoted by Ribot, from Forbes Winslow, memory gradually returned in one, and the "mind resumed all its wonted vigor and its former wealth of polish and education," after a few months successfully spent in the process of re-education; in the other, in which the amnesia was as complete as in the first, memory suddenly returned after the patient had spent some time in relearning things which he had known

before his illness. In neither of these cases are we informed in what order memory returned.

In a case reported by Dunn, in the *Lancet*, November 15th and 29th, 1845, and quoted by Carpenter and Ribot, a young woman, in an amnesic condition, resulting from a fall in a river by which she was nearly drowned, retained memory of only two things, a love affair with a young man to whom she had been attached and her fall into the river. These two incidents undoubtedly had made strong impressions upon her mind and were retained when all less stable and less organized in the tablets of her memory had been obliterated by the shock to the brain, resulting from the fall into the river and the illness that followed it.

About the only thing of importance to be gained relative to our present subject (the diagnosis of feigned from real amnesia) by a study of the recorded cases of periodic amnesia is, that many persons so affected, in their abnormal condition, retain perfect memory for certain stable or organized cerebral impressions, whilst the less stable, more complex and imperfectly organized brain impressions are lost to a greater or less extent.

There is only one case of suddenly developed amnesia recorded, so far as my reading goes, in which restoration of memory followed the law that we found to hold good in progressive amnesia. This is one of temporary retroanterograde amnesia, resulting from injury to the brain, probably cerebral concussion. It is so important that I shall give it in full as quoted by Ribot from M. Kompfen's report in the "*Mémoires de l'Académie de Médecine*," 1835, C. 4, page 489.

I must first give a few details, apparently insignificant of themselves, but worth knowing since they relate to a remarkable phenomenon. During the latter part of November, an officer of my regiment had his left foot injured by the pressure of an ill-fitting boot. On the 30th of November he went to Versailles to meet his brother. He dined there, returning to Paris the same night, and, on entering his lodgings, found a letter from his father on the mantel-piece. We now come to the important point.

On the first of December, this officer was at the riding school, and, his horse falling, he was thrown, striking upon the right side of his body, and particularly upon the right parietal. The shock was followed by a slight syncope. On coming to himself, he remounted "to drive off a little giddiness," and continued his lesson for three-quarters of an hour, with much assiduity. From time to time, however, he kept saying to the riding master, "I have been dreaming. What has happened to me?" He was finally taken home. Living in the same house with the patient, I was immediately called in. He was standing, recognized me and greeted me as usual, saying, "I have been dreaming. What has happened to me?" His speech is natural, he replies readily to all questions and complains only of a confused feeling in the head.

Notwithstanding my inquiries, and those of the riding-master, and of his servant, he remembers neither the injury to his foot, nor his journey to Versailles, nor going out in the morning, nor the orders he gave on going out, nor his fall nor what followed. He recognizes every one, calls each visitor by his name, and knows his position as officer. I have not allowed an hour to pass without examining the patient. Each time that I go back, he believes that I have come for the first time. He remembers nothing of the prescribed remedies administered (foot-bath, rubbing, etc.) In a word, nothing exists for him except the action of the moment.

Six hours after the accident, the pulse begins to rise, and the patient takes cognizance of the reply already made so many times, "You fell from your horse."

Eight hours after the accident, the pulse is still rising. The patient remembers to have seen me once before.

Two hours and a half later, the pulse is normal. The patient no longer forgets what is said to him. He remembers distinctly that injury to his foot. He begins also to recall his visit to Versailles yesterday, but so indistinctly that he says that if anyone were to affirm positively to the contrary, he would be disposed to believe him. However, the memory continuing to return, by night he became firmly convinced that he had been to Versailles. But here the progress of recollection ceased for the day. He went to bed without remembering what he had done at Versailles, how he had returned to Paris, or the receipt of his father's letter.

December second, after a night of tranquil sleep, he remembers on awakening what he did at Versailles, how he came back, and that he found a letter from his father on the mantel-piece. But of all that he saw or heard on the first of December, before his fall, he is still ignorant to-day, that is to say, he has no knowledge of the events in question save from the testimony of others.

This loss of memory is, as the mathematicians say, inversely as the time that has elapsed, between any given incident and the fall, and the return of memory is in a determinate order from the most distant to the most near.

It is probable that with a little more perseverance on our part we may be able to obtain the necessary details of cases of amnesia to throw light on many points in regard to which we are yet in the dark. In Charcot's case nothing is said in regard to the order in which memory has returned. We shall hope, however, that when his patient has completely recovered, to have from the master's hand his usual classical description of the manner in which memory for various events returned.

The patient whose history forms Case I. in this paper, lives at a distance, and I have been unable to obtain a full account from her of her condition since last October or November. At that time her mind was a blank for a period of seventy-one days. As she was emerging from the amnesic state, she remembers seeing a man and a boy, her husband and son, whom she thought were strangers. It was two weeks after she remembers seeing a man and a boy before she was able to recognize them in their proper relations to her.

Now let us return to the case of A., whose history is given at great length in this paper, and see, by comparing his case with those recorded, in which no legal questions arose to complicate them, what conclusions we shall be forced to arrive at in regard to whether his alleged amnesia is feigned or real.

We will first review his case in the light of the sworn testimony and then try to study it, as assisted by his letters to me.

We have a strong, vigorous man, in the prime of life, shrewd and active in business, undergoing great hardships on the plains, and frequently risking his life and that of his family among treacherous and untamed savages, suddenly deprived of an ample fortune by roving and murderous bands of Indians, and left worse than penniless—in debt to the extent of several thousand dollars. Three years are spent in an unaccustomed mode of life in trying to secure from the U. S. Government reparation for his losses. During this period success would seem to crown

his efforts at one time, when something would arise that would necessitate a postponement of the action of Congress for another year. By the end of the third year—worn, weary and anxious, he falls exhausted on one of the streets of Washington, becomes unconscious and has to be taken home. A month of headache, despondency and dark apprehension follows.

The Government pays half his claim, and with the money he settles with his creditors, and has several thousand dollars (about thirty) left. A few weeks later he falls on the street, then follow a year and several months during which he suffers from agonizing headache, great stomach distress, falls on the streets once or twice and becomes unconscious, is confined to his bed three months at one time after an unconscious attack, becomes extremely emaciated, so that his weight is reduced from two hundred and forty to ninety-five pounds, all memory for recent events has fled and he lives in the past as one who is demented. He becomes depressed, apprehensive, sleepless and at times the subject of delusions. He fears to be left alone; child-like, he requires someone to hold his hand while he gets to sleep, and walks in the middle of the streets lest the houses should fall on him. A period of nine years is spent in California, where he becomes capable of attending to some business, but is still apprehensive, despondent and a sufferer from headache and great gastric distress. His memory remains poor and the subjects of his conversation with his friends are his sufferings, Indian encounters, occurrences of his early life and his lock business, of which he is said at times to have become quite visionary. In 1880 he reaches Colorado, still an invalid, the subject of poor memory and incapable of carrying on the smallest business. In New Mexico, in the latter part of 1880 he begins to improve, but is still unable to attend to the slightest details in business. His memory still remains poor. In 1883 he sues a man and gives details of a transaction that occurred in 1866 and the contents of letters concerning this matter

received in 1867, 8, 9. His physical and mental condition improves, but he is still forgetful, gives orders to have work done in a certain way one day and the next day declares that he had never given such orders. This habit becomes so annoying that persons doing work for him refused to carry out any orders that he gave unless they were written or signed by himself. He tells the same man the story of his father's death three times in one day. From 1867 to 1886 or 1887, he was never known to speak of any transaction with Eastman or of land having being deeded in trust to a third party for him. About this time (1886 or 1887), he accidentally meets Eastman, has a faint recollection of having seen him before, and readily remembers him when his connection with a certain firm in Denver was recalled. A. had known Eastman for some time prior to the fall of 1866. The meeting of Eastman does not recall to the mind of A. the faintest recollection of the land transaction. Eastman asks him what he did with the land deeded to a certain party in trust for him? and still he does not remember anything about the land now in dispute, and it was only after Eastman detailed the fact that he (Eastman) had bought of A. one hundred cows, and had paid for them in land which had been deeded in trust to a third party for A., that the latter could remember the transaction. After this he is hesitating, vacillating, easily discouraged and has a poor memory.

From a study of the symptoms presented by A. during the first year or two of his illness, it seems to me that we are justified in making a diagnosis of exhaustion from worry, over-work and exposure to heat, followed by a probable cerebral pachymeningitis, certainly neurasthenia gravis, with the symptoms that usually marks its course, viz., headache, gastric disorder, melancholia and sometimes a state bordering on dementia.

A. claims to remember nothing from the time he fell in front of the Smithsonian Institute, in Washington, in the late spring of 1870, until he found himself in

Sacramento, California, in the fall of 1871, a period of fifteen to eighteen months.

We know from a study of other cases of amnesia, especially that of the progressive form, that complete amnesia, if it does occur, is found surrounding the period of greatest brain disturbance. This is almost the universal rule, and has, so far as I am able to ascertain, only one exception, but this case, reported by Brown-Séquard when studied in the light of the pathology of cerebral hemorrhage, is more apparent than real. We may accept it as a fact that the period of complete amnesia in A.'s case corresponds with the time of its occurrence in other similar cases. No transaction occurred during this period which the plaintiff in the case has any object to forget. The most important period for him to have feigned total amnesia is from 1880 to 1890, the time during which he claims his memory was best. Further, to exclude the supposition of feigning on the part of A., I may state that his attorneys supposed him to be suffering from dementia, when they consulted me about his condition. They were surprised when I told them that it was not dementia, as ordinarily understood, but a form of insanity known as amnesia.

From 1866 to 1870, the period of partial amnesia preceding the total amnesia, he claims to remember buying the large herd of cattle in Texas, with which he intended to fill his Government contract; the Indians attacking him in 1867 and the narrow escape of himself and family from being massacred; the news of the loss of his entire herd of cattle and outfit, which represented more than his own possessions; pressing his claims in Washington and the various details of the same; the payment by the U. S. Government to him of \$73,000; paying his debts, and removing his family to Washington, but he does not know whether he remembers these things of himself or whether he has been assisted by his family, as all these events were well known to his family, and have been frequently the subject of conversation by them in his presence.

During this period he claims to have forgotten everything of which his family were not cognizant, such as the land transaction now in dispute, a party owing him \$12,000, and others owing him sums amounting to \$25,000. One thing seems certain that A. was never heard to speak of the transactions until during the last three or four years, when he met parties who were familiar with the facts, or found records to recall the transactions to his mind.

If Mr. A. was learned in psychological research, he could not have more accurately detailed facts that accord with what we know of retrograde amnesia than he has done in his letters to me; yet he did this unconscious of my object, further than testing his memory.

Of this amnesic period, Ribot says:

The physiological cause of amnesia in this group is only amenable to hypothesis; and probably it varies with each case. At first, the faculty of registering new impressions is temporarily suspended; as they appear, states of consciousness vanish and leave no trace. But preceding recollections, registered for weeks, months, years—where are they? They have long endured, they have been conserved and frequently reproduced, they seemed to be a stable acquisition, and yet their place is a blank. The patient is able to gain them only indirectly and by artifice—the testimony of others or his personal reflections which unite the present in a more or less imperfect fashion with what remains of the past. Observation does not show that this chasm is ever bridged by direct recollection.

The testimony of all the witnesses for the plaintiff and defense, including every member of Mr. A's family, is, to the effect that he was never known to speak of the transactions which he claims to have forgotten. When we take into consideration that this period of silence is twenty years in duration, during which time he was frequently in want, and much distressed to secure the necessary comforts of life, it seems to me that we have sufficient proof of the genuineness of his claim to inability to remember, unassisted, the events of this period of his life.

I may be asked, why he seems to have such a vivid

recollection of his sensations preceding his second attack in Washington? His account of what occurred just immediately preceding his fall is:

I felt a very tired sensation, as though I was carrying a heavy load and started to go home, got as far as the gate of the Smithsonian Institute and then the rest is a blank for a long time.

This attack must have been somewhat in the nature of epilepsy. It is well known that epileptics will describe their sensations preceding their first convulsion, if any were present, ten or twenty years after their occurrence. It may be thought that because they have given a detailed description of them so often that they become firmly impressed upon the mind. I grant this is so. In A.'s case, a detailed description of his troubles has been gone over from the time his mind became first affected. It is well known that in some forms of epilepsy that persons may retain a vague memory of their feelings during most of the seizure, if it is unattended with convulsions, but forget the objects of the errands on which they were engaged at the time of the occurrence of the attack.

Let us take A.'s own account of how the power of memory seemed to return, and see if it accords with the usual manner in which memory returns in similar cases. He remembers being in California, but not the year he reached there. He remembers being in Sacramento, and doing some work there, but states that it all seems like a dream.

He says that he remembers San Francisco better, and gives as a reason, that his oldest boy died there of scarlet fever. He remembers what terrible sufferings he had from stomach, want of rest and sleep. He states that he remembers that he felt much better some days than on others. In his letter he calls to mind his lock factory, but says of that period, he can remember little else besides his misery.

He is quite sure that after 1886 or 1887 that he could

remember everything that occurred previous to his illness when the events are recalled to his mind.

It is no use to spend time in a further examination of these statements of Mr. A. They are in exact harmony with what takes place in similar cases in which there has been no object in feigning.

It now may be well to consider a few objections that might be raised against accepting A.'s amnesia as real. With all of his eccentricities and lack of memory, he exhibited a certain amount of perseverance and some enthusiasm in connection with his lock business while in California and his conversation, which seems to have been limited to his pet subject (the lock patent), his ailments, the incidents of early life and his encounters with Indians, was connected, and struck the ordinary observer as being intelligent. Some testified that he seemed all right mentally.

I have no doubt that these witnesses testified truthfully. It is well known, however, that a person may have a considerable defect of memory for a certain period of his life, and yet this may never be discovered, even by his physicians, unless a careful inquiry is gone into covering the period over which the amnesia extends. None of the witnesses that testified on the side of the defense were physicians, and not a single witness had inquired into the condition of his memory. At first thought it may seem to some that a certain amount of business capacity and the exhibition of considerable intelligence in carrying out schemes in connection with a patent, militate against accepting his amnesia as real. But it only requires a little reflection to see that this has nothing to do with the period of amnesia.

There are numerous well-authenticated cases on record of intelligent persons losing, on account of cerebral shock or brain disturbance of some kind, all memory for a certain period of their lives, and although this period has never been bridged over, either directly or indirectly, yet they have exhibited the same vigor of mind and the

same wealth of polish and culture that they had shown previous to the amnesia period.

A.'s semi-demented condition, extending over a period of fifteen or eighteen months, and his subsequent poor mental and physical condition have been carefully inquired into in this paper, not to prove the condition of amnesia from these facts, but to show that the power of memory with him returned very much in the same manner as we find it does in the resolution period of dementia. This being shown, it proves that he is not feigning.

The objections raised by the attorneys for the defense to A.'s alleged loss of memory on account of the accurate memory he showed in 1883, concerning a loan made in 1866 and certain subsequent circumstances connected with this loan, are answered at sufficient length in giving the history of this period of his life. No chasm was ever discovered here, because the wife was in the position of the connecting link that bound the past to the present in relation to this transaction.

So much has been said in A.'s history, both as given by himself and as testified to by nearly all the witnesses for the plaintiff and defense, concerning his memory, of his depression of spirits, sufferings and hardships, endured both before and subsequent to his acute illness, that it may not be out of place to quote from Ribot in reference to the emotions and feelings :

The most careful observers have remarked that the emotional faculties are effaced much more slowly than the intellectual faculties. At first thought it seems strange that states so vague as those pertaining to the feelings should be more stable than ideas and intellectual states in general. Reflection will show that the feelings are the most profound, the most common and the most tenacious of all mental activity. While knowledge is acquired and objective, feelings are innate. Primarily considered, independently of any subtle or complex forms which they may assume, they are the immediate and permanent expression of organic life. The viscera, the muscles, the bones—all the essential elements of the body—contribute something to their formation. Feelings form the self; amnesia of the feelings is the destruction of the self.

From a study of the cases of amnesia that I have

reported in this paper and from an analysis of numerous records of similar cases it seems to be that the following conclusions are warranted:

1. In cases of sudden loss of memory (complete for a certain period), if memory for anything thus lost ever returns spontaneously, the events that were the most firmly impressed upon the mind at the time of their occurrence would be the most likely to be recalled (*e. g.*, things taking place under great hardships and trying or exciting circumstances); but the routine events of life, unattended by extraordinary circumstances would be likely not to return at all spontaneously if the disturbance to the brain had been very great. These would require a recalling by someone, or by a combination of circumstances, before they could be appreciated by the blurred consciousness.

2. This rule seems to have exceptions, but they are less numerous than at first thought they appear, when we take into consideration all the modifying circumstances connected with mental impressions.

3. In amnesia from brain disturbance of any kind, if there is a period in which it is complete and cannot be bridged over by any means, it apparently is most likely to occur at the time when the cerebral nutrition is the poorest and consciousness begins to return when the health begins to improve.

4. Continued poor health retards or prevents return of memory.

5. Personal feelings and emotional states are more stable in memory than the results of the intellectual faculties.

6. Bright and intelligent persons, who are recognized by all who know them as sane, may have chasms in their past consciousness, which never have been and never can be bridged over.

7. Such a condition of amnesia may never be detected by the most intimate acquaintance, unless inquiry is made into the memory for this period.

Insomnia in an Infant, with Reflections on Pathological Sleeplessness.

By C. H. HUGHES, M. D., St. Louis, Mo.

IF there exists in the literature any record of real insomnia in very young infants, the fact has escaped my observation. The natural tendency of early infantile life is to spend itself mostly in sleep. The neurologically healthy babe during the first few weeks of its extra uterine life is kept awake just as it is caused to cry by some unpleasant or disagreeable excitation. Much of the first six weeks of its existence out of the mother's womb is passed in sleep. A sleepless babe, not subjected to sufficient corporeal pain or irritation to provoke crying, is an anomaly. Yet such is the fact which I have to record of a female infant, five weeks of age, who, without physical or mental provocation, would lay awake with eyes wide open and gaze about in placid contentment throughout the night, unless sleep were induced, as in the more aged, by hypnotics. The child was quiet and tranquil and free from pain or other source of bodily discomfort.

It was well cared for by a faithful and intelligent nurse. Its napkins were always dry and soft, the umbilical cord had separated and the navel had healed kindly, having been carefully dressed with simple cerate and patent lint; colic and constipation had been carefully guarded against. The babe nursed well, the mother had sufficient milk, and its environments were all favorable to rest and sleep, yet it slept not for several nights and not then until after receiving treatment for insomnia, as an adult would, only in proportion diminished to suit its age.

This insomnia would recur if the treatment were omitted, until about the end of the tenth week. The child then

slept without medical assistance and became a vigorous and neurotically tranquil babe.

Sleep was only induced by five-grain doses of bromide of sodium and three-grain doses of chloral put into a small amount of milk and given the baby from a bottle. The chloral once at night and the sodium salt twice or thrice daily for a brief period. Celery and catnip teas and the hypophosphites were also given freely.

This child's mother had been much excited mentally and nervously, verging on mental aberration during the period of gestation and before, and required the skill of a practiced alienist to avert a puerperal psychical climax after the birth of this infant. The mother was given hypnotics and the bromide salts quite freely during the first three weeks after the birth of the child, which may account for the insomnia not having appeared earlier as an hereditary condition, as it appears really to have been. To my mind, the mother's neuropathic condition before and after birth and at the time of conception, explains the state of the child. Before the insomnia was arrested some slight chorea became manifest, but this disappeared with the restoration of normal sleep and neural recuperation and central nerve stability.

REFLECTIONS.

With such a case before us the philosophical mind will naturally turn to reflection on the phenomena of sleep and its cause. In view of such a case as this it would seem that the exhaustion theory of sleep, *i. e.*, that it is the physiological sequence and result of previous exhaustion of the cerebral centers from action beyond the possibility of further sustained stimulation—the reaction of rest—is not fully tenable, for this infant slept in the beginning of its life, but became sleepless after a period of rest and without excitation provocative of insomnia. What caused its insomnia? Nothing else than inherent neuropathic instability, kept from asserting itself at birth by the treatment

given the mother and transmitted in the mother's milk to the infant.

Is there not a sleep center whose tendency is to keep the organism rhythmically at rest, which is kept from asserting itself in somnolent rest of the organism only by excitation of environment beyond it, both within the organism and without; within by the coursing pressure and excitation of the circulation through cerebral vasomotor states, external in the thousand and one influences which operate upon this center from within the organism to keep it alert? Is it through this center ceasing to longer respond to central or peripheral excitation, or vasomotor states manifested in arteriole dilation and increased blood supply to the brain, that the phenomenon of normal sleep ensues? And is insomnia the morbid excitability of this center to the point of exhaustion of all activity beyond what is natural to it, exhausting the possibility of more prolonged attention than is natural to it, which constitutes morbid vigilance or insomnia and precludes the possibility of the natural sleep? In short, does central neuropathic instability pass into prolonged psychic excitability and spasm of this sleep center, as the medulla-spinal centers do in tetanus, the cerebro-spinal in catalepsy, hystero-epilepsy, or as the psychical centers do in automatisms and trances, ecstasies, etc.?

And if this is insomnia then what are lethargy and narcolepsy and what are the toxic narcoses?

SELECTIONS.

PSYCHIATRY.

MORPHOMANIA AND SOMNAMBULISM.—Doctor Brazier, of Paris, recently reported to the Medical Society of that city, a case of exaggerated morphinism, which was associated with remarkable exhibitions of somnambulism, during the self-administration by the subject of his highest doses of morphia.

The subject is an old and distinguished Government officer, at the head of an important bureau of the French naval department, and is represented by the reporter to be highly intelligent, very energetic and of extraordinary working capacity. Whenever during his naval career, he was ordered to sea, he invariably suffered for a considerable period after embarking, from intense sea-sickness. It was to relieve this condition that he first employed hypodermic injections of morphia which, in his case proved a sovereign remedy for the disease.

At long intervals, and solely under the above circumstances, he resorted to the hypodermic use of morphia, and being possessed of a strong will he could remit the drug completely on the subsidence of the attacks of sea-sickness.

At last, a painful abscess followed in the seat of a subcutaneous injection, which induced him to lay aside the needle and attempt the substitution of morphia by the stomach. The change was successful and wholly satisfactory to him. This occurred in 1877.

In 1881, while laboring under a hepatitis, first contracted in Senegal, he administered for the attendant pains (again on his own prescription), two daily doses of morphia by the stomach, consisting of ten centigrams each. In six weeks this treatment had developed into well-marked morphinism.

Being perfectly cognizant of this result, and being, as Dr. Brazier remarks, "a most punctilious and solicitous observer of every symptom," he at various times essayed the reduction of his progressive doses of the drug, but, in the earlier efforts, with only temporary success. In

1882, at the period when he was permanently retired from active naval services, and assigned to new duties in the marine office at Paris, he was addicted to twenty centigrams of morphia per day. In 1885, he had reached the large daily consumption of one gram (fifteen grains), and this continued to be a daily ration, which he never surpassed.

In 1886, this French officer became thoroughly alarmed at the formidable array of symptoms which the morphinism had entailed. His virility he knew was effaced and his intelligence he believed to be menaced. So he mustered all his guns for a decisive fight.

He first made the ambitious attempt to abandon the drug altogether, and left Paris for Switzerland, with but a single grain of morphia in his possession. After four days of abstinence his suffering had grown extreme, and on the next day, despite his fixed resolution and iron will, it became so peremptorily unendurable that he resumed use of the poison, in the daily gram dose.

He returned to Paris in a state of desperation, but not of discouragement. His attempt at a brusque abandonment of the drug having totally miscarried, he now applied himself, as Dr. Brazier remarks, "to the more practicable, but almost equally rugged path of gradual self-cure." During the first year, 1886-87, he bravely reduced his daily consumption from 100 centigrams (fifteen grains) to sixty centigrams. The next year, 1887-88, he succeeded in reducing it to forty centigrams. The following year he diminished it to thirty centigrams, and at the date of Dr. Brazier's report, the present year, he uses but twenty centigrams, or three grains, by the stomach, in twenty-four hours.

The steady and never-relapsing efforts of the patient, whose self-cure has been slow but uniformly sure, inspire Dr. Brazier with the belief, in view of the old officer's proved patience and pertinacity, that he has but a single remaining cape to double, and that not a dangerously difficult one, before reaching a safe and comparatively peaceful harbor for the remaining days of his life.

What, in Dr. Brazier's opinion, confers upon his clinical picture, the most importance and value are the remarkable phenomena of somnambulism, which became conjoined with, and were in all probability produced by the morphinism, at a period (1885), when the subject had reached his maximum daily quantity of the poison. The

doctor premises by saying that the patient had never suffered from any neurosis before his resort to morphia, nor could any antecedent mental or nervous lesion be traced to his parents. The latter had never experienced somnambulism, nor had the patient in infancy, at puberty, during adolescence, and in manhood ever walked or even talked in his sleep.

We close the foregoing condensation with a correct translation of Dr. Brazier's words:—

"He (the morphomaniac) would frequently get up from his bed and in the darkness of night seat himself at a table and resume his official work where it had been suspended at his office. He would correctly prepare official memoranda without the possibility of reference to the naval archives, and would even indite long official reports, while in the somnambulatory state, with as much preciseness, co-ordination and logic as when awake. Upon reading these nocturnal productions on the following morning, he would be surprised to find that they contained figures and items of information which he could not have summoned from his memory in waking hours. He remembered nothing whatever of these somnambulatory experiences, and became aware of them only by the statements of his household, and by the evidences which he discovered on his table. It was not unusual for him to employ several consecutive nights in the preparation of a single report, and, in such cases, he found that the work had been accurately resumed at the place where it was suspended the night before. The themes upon which he worked at night were usually such as he had industriously investigated at the naval office the previous day."

W. W.

SINGULAR CREDULITY.—The Berlin *Gerichts-Zeitung*, of April 17th, 1892, reports the recent trial of a female superintendent of an Orphan Asylum, in Biding, Lorraine, under indictment for fraud. She had collected fifty-thousand dollars, for the construction and equipment of said asylum, by a remarkable series of false pretences. The accused was acquitted through the expert testimony of the physicians of the Saargemünd Hospital for the Insane.

Katharina Filljung, the accused, is 42 years old and the daughter of a Lorraine peasant. She alleges that since 1873, she has frequently been favored with apparitions of the Mother of God, that she has beheld the souls

of the dead in purgatory, and that she is gifted with foresight into futurity. She affirms that by divine favor she lived several years without nourishment other than that proffered by the angels, who fed her with holy wafers. Among other supernatural qualities she maintains that she can instantaneously transfer herself to remote localities.

In 1884, Katharina began the construction of her large orphan asylum, in Biding, and alleged that it was by order of the holy virgin. Between the years 1880 and 1886, she obtained contributions from numerous sources amounting to 50,000 dollars. The contributors were inspired by her with the belief that she was a special object of divine favor, and that in erecting the asylum she fulfilled a direct mission from the Virgin Mary.

The prosecution averred that the accused had swindled the contributors by making false representations and deliberately concealing her knavish motives when acquiring their property.

Katharina was for some time under observation as an inmate of the Saargemünd Hospital for the Insane, and the director of that institution bore witness before the tribunal to her unsoundness of nervous system and intellect. It was his opinion that she fully believed what she had fancied and alleged, concerning her divine mission. She was hysterical, he testified, and at times was affected with ecstasy. She could voluntarily produce the latter disease, which in her case was accompanied by loss of sensibility, voluntary motion, and mental power, the body being inflexible.

Dr. Simon, an assistant physician of the same hospital, testified as follows:

"While in our hospital, it became necessary to cut a tumor from her breast. At the instance of our director she voluntarily placed herself in a condition of ecstasy, preparatory to the operation. It was my duty to watch the anæsthetic state thus produced, and be prepared to administer chloroform, should she need it to relieve her suffering. She remained perfectly quiet during the entire operation, and gave no sign whatever that she experienced pain. I was amply convinced that the ecstatic phenomena voluntarily provoked by her were real, and not feigned."

W. W.

INSANITY OF THE RUSSIAN MINISTER OF FINANCE.
—We extract from a St. Petersburg letter, recently pub-

lished in the Paris *Figaro*, the following reference to the insanity of Wyschnegradski, the czar's minister of finance:

"Several months ago, W. himself realized that he suffered from cerebral anæmia, and resolved to submit, in his own house, to treatment by a skilled alienist, whom he kept almost constantly within call. A few weeks ago, he betook himself, in company of his physician, to the Gatschina palace, in order to lay before the czar a business report. On his way thither, while scanning the document, he excitedly remarked to his companion, 'Those stupid clerks, in copying my papers, have repeated every line!' On arriving in the antechamber of the palace they found Sergius von Witte, the newly-appointed minister of commerce, waiting for an imperial interview. It is the custom of the Russian court, under such circumstances, for the eldest minister in commission to be first presented. But the physician privately begged von Witte, despite the latter's fresh patent, to enter first, and to appraise the czar of W.'s unexpected condition. This suggestion was adroitly followed and when a little later, W. was ushered into the presence of the czar, the latter rose and greeted him most cheerfully with the following words: 'Good morning, Iwan Alexejewitsch. Let us postpone official business until tomorrow. To-day we will breakfast together?' But the consciousness of W. appeared wholly to have left him. While directing his gaze solely upon the chair which his ruler had vacated, he made a deep bow to it, and uttered some unintelligible words. Then he seated himself at the minister's desk and began, with his motions still directed to the vacant chair, to read his report *in the English language*. The scene became most painful to the czar, and he immediately summoned his own physicians. The czar having in the meantime retired, W. rested his head on his hands and fell into an apparently profound sleep."

W. W.

IMPREGNATION OF ONE SEXUAL PERVERT FEMALE BY ANOTHER.—Duhousset (Moll's "Conträre Sexualempfindung") reports the case of two sexual pervert females which come under his observation. One of them at length married, but kept up her relations with the other. The unmarried female had an enlarged clitoris by which coitus was performed. The unmarried pervert became pregnant to her own astonishment. The matter was

later explained by the admission of the married pervert that immediately after coitus with her husband, she had indulged with her "friend," who thereby impregnated herself.

NEUROPATHOLOGY.

MORBID ANATOMY OF PARALYSIS AGITANS.—Dr. von Sass (*St. Petersburg Med. Woch.*, Nos. 19 and 20) furnishes a contribution to the *morbid anatomy of paralysis agitans*. The fact that this disease is essentially confined to the most advanced periods of life, when the retrograde changes of nutrition are everywhere more or less manifested, renders it difficult to isolate the characteristic lesion. Sclerotic changes, affecting now the white matter, again the gray matter of the cord, pons or basal ganglia, diffuse or circumscribed as the case may be, seem to be the most common pathological changes. The author makes no claim that he has solved the vexed question, and frankly confesses his own disappointment at the unsatisfactory result of the careful investigation. Nevertheless, considerable credit should be his due for the very full and interesting report he has furnished, both of the clinical history and of the microscopical investigation of the nervous system. None but those who have followed similar studies can properly estimate the amount of time and labor involved in a histological review of the cerebro-spinal axis, peripheral nerves and muscle fibers; each case thus studied deserves to go on record.

The patient, a woman, aged seventy-one, had complained of muscular tremor for twenty years. The history and symptoms were characteristic, and the only remarkable feature was the increase of the tremor during voluntary movements; this, as Charcot has shown, sometimes occurs in the last stages. Aside from partial obliteration of the cerebro-spinal canal, abundance of the corpora amylacea at all levels of the cord, and some arteriosclerosis, there was nothing abnormal in the cord; however, the peripheral nerves and muscles showed decided alterations. In the brachial plexus there were seen thickening of peri- and endoneurium, a diffused proliferation of connective tissue with increase of nuclei, atrophy and partial disappearance of nerve fibers, with coagulation of myelin, and thickening of the blood-vessels. In the

muscles the fibers had everywhere undergone some atrophy, so that they appeared smaller than normal, and the sheaths were crowded with nuclei—evidently a chronic myositis.

The author calls attention to the fact that, with the exception of Leyden and Skoda, no observer had made any effort to examine either the peripheral nerves or voluntary muscles; and, while not inclined to make all the symptoms dependent on these changes, he thinks they may be largely responsible for the clinical picture; and he would explain the neuralgic pains, that frequently precede the occurrence of tremors, as due to an actual neuritis.—*Cin. Lan. and Clin.*

AN EPILEPSY BACILLUS is announced by Dr. Gerdes, of Halle. He has found it in large numbers in the liver, kidneys, and blood of persons dying of epilepsy. Injecting it into mice and rats has been followed by their death.—*American Lancet.*

NEUROPHYSIOLOGY.

THE PHRENIC NERVE.—Dr. John Fergusson (*Brain*, 1891) gives the following reasons in support of the view that the phrenic contains sensory as well as motor fibers. In the autopsy of a case of progressive muscular atrophy in which the diaphragm was involved, certain fibers in the phrenics were found unimpaired. Some vivisections on cats gave confirmatory results. One observation may be given in his own words:

"About nine months ago I had a patient who died of an abscess in the liver. There was decided inflammation of the serous membrane covering the diaphragm in contact with the liver. In this case the pain in the back of the neck and out on the shoulder was very intense. The pain was always made worse by movements, coughing or vomiting. These acts disturbed the diaphragm and at once started or intensified the pain in the shoulders and neck."

We would suggest that this may be the long-sought cause of the pain in the acromion sometimes found in disease of the liver. The skin over the acromion and clavicle is supplied by the descending superficial branches of the cervical plexus, coming chiefly from the third and

fourth nerves and practically wholly sensory. If sensory fibers from the same nerves go into the phrenic, which is derived chiefly from the fourth, the connection is evident.—Dr. Thomas Dwight, Rep. on Prog., *Bost. Med. and Surg. Jour.*

A RARE CASE OF AUDITORY REFLEXES.—Steinbrügge (*Arch. of Otol.*, xx., 1) reports the case of a man, aged 44, who suffered from a remarkable reflex spasmodic condition, involving the respiratory apparatus in particular. This spasm follows every sort of sensory, optical and auditory impressions of a sudden character; the patient moves both legs in a kicking, spasmodic manner, suddenly jumps up and then makes expirations through the nose, rapidly following each other, the mouth being closed during each expiration, but making a kissing sound during each inspiration. The respiratory movements are at first very rapid, and subsequently become slower and shallower. The patient walks like an ataxic, and has been impotent for years. Vision, pupils, sensibility of skin, smell, taste and muscular sense are all normal. Acuteness of hearing is slightly diminished. On both sides there is moderate galvanic hyperæsthesia of the auditory nerves, with paradoxical reaction. The case was regarded as a functional neurosis, induced by a reflex spasm in certain muscles of the thigh.

MOTOR PATHS OF THE SPINAL CORD.—Rossolimo (*Arch. de Neurologie*, Nos. 64 and 65, 1891), has published a long series of experiments upon hemisection of the spinal cord, the cord often being hemisected on opposite sides at different levels and at different intervals of time. The author considers that the most important result he has made out is that when in an animal submitted to hemisection of the spinal cord the voluntary movements of the paralyzed extremity come back to their primitive state, this is always brought about by the supplementing of the nervous paths cut by the operation by other paths running on the opposite side of the spinal cord and intact in it throughout the whole length from above to below; that is to say from the crossing of the fibres in the pyramids of the bulb down to the level of the motor roots containing the nervous fibers for the posterior extremity, where they pass immediately from the side of the lesion.—*Brit. Med.*

CLINICAL NEUROLOGY.

GANGLIONIC NEUROMA OF THE SUPRA-RENAL CAPSULES.
—Before the New York Pathological Society, Dr. R. G. Freeman presented gross and microscopical specimens, which had been removed from a little girl of five years, who had suddenly died after an operation on the hip-joint. At the autopsy the lungs showed a beginning broncho-pneumonia, considerable anthracosis, and one bronchial gland, which was cheesy and calcareous. The tumor, which was hard and round, and measured 2 ctm. in diameter, was situated in the left supra-renal capsule. Microscopical examination showed it to be a spindle-cell sarcoma, containing many large cells corresponding in appearance to ganglionic cells. These cells contained fairly large nuclei, and one or more well-defined nucleoli.

On reviewing the literature of these tumors, he had been able to find a description of two such cases. The first was reported by Weichselbaum, and was taken from the body of a man, seventy-six years old, who died of pleurisy. The tumor was about the size of a cherry, and was designated "a ganglionic neuroma" on account of the presence of these ganglionic cells, the remainder of the tumor being considered as made up of nerve-fibers. The cells were distributed in about the same way as in the specimen just presented, they were spherical or ellipsoid in shape, and the nuclei were generally eccentric. In the other recorded case, no nerve-fibers were found, but fibrous tissue and smooth muscle tissue, and in size and shape it was not unlike a large white kidney. The specimen was found in a man, thirty years of age, who had suffered from Addison's disease, and it was described as "a ganglio-fibro myxoma."

FORMS OF FACIAL PARALYSIS.—

1. Cerebral.
2. Bulbar.
3. Intracranial; the trunk of the nerve from its root to its entrance into the internal auditory meatus.
4. Intercranial; its traverse through the cranium.
5. Extracranial; from the stylomastoid foramen to its different terminal filaments.

These divisions are of much importance, not only from a diagnostic point of view, but also in rendering a prognosis. Lesions occurring in the second portion are

often fatal; those in the first, second and fourth are serious, while those in the fifth are light.

The differential symptoms indicating the seat of the disease in its course are:

1st Portion.—Cerebral, conservation of reflex phenomena.

2d Portion.—Bulbar, paralysis of the extremities.

3d Portion.—Intracranial, injury to the neighboring nerves.

4th Portion.—Intercranial, gustation of the anterior part of the tongue abolished. Hyperæsthesia of audition.

5th Portion.—Extracranial, paralysis of the facial muscles not of the palate.—Luciana in *Revist. Freniat.*, etc.

THE INFLUENCE OF THE NERVOUS SYSTEM ON INFECTION.—Observations by Féré upon this subject are noted in *Le Mercredi médical* for February 10, 1892. In an earlier communication he had made known the fact that vaccine virus proved more efficacious in paralytics upon the affected than upon the sound side. This is also true in cases of infantile paralysis. Vaccination during the stupor following epilepsy was performed upon all epileptic patients without result, with one exception only.—*New York Medical Journal*, March 12, 1892, page 300.

NEUROTHERAPY.

A NEW SAFE METHOD OF ADMINISTERING TOXIC MEDICAMENTS.—Parke, Davis & Co. have made a new departure in therapeutical posology.

The doses sometimes being fractions of a thousandth or a hundredth, it is not possible for the physician to always bear them in mind, and in prescribing he is often in doubt as to what constitutes the proper therapeutical dose, and what the dangerous toxic one.

Dr. E. Trouette, in a paper read before the Paris Academy of Medicine and published in the *Revue de Thérapeutique*, entitled, "Duodecimal Doses of Toxic Medicaments," proposes a method of obviating the difficulties hitherto preventing the general use of many valuable medicinal principles. The plan he proposes is a

new method of posology based on the rational division into twelve parts of the maximum dose which may be given to an adult in twenty-four hours.

The advantages claimed for this method are, first, accidental poisoning need no longer be feared; second, dangerous mendicaments may from the outset be given in efficient dose without the least risk.

Parke, Davis & Co. have prepared diurnules and Diurnal Tablet Triturates of a large number of Toxic Mendicaments, and will afford the profession full information concerning this new method of posology, with reprint of Dr. Trouette's article.

THE PHYSIOLOGICAL EFFECTS OF THE FRANKLINIC CURRENT.—Damian, of Paris, has recently published a study upon the above subject. By means of his experiments he has conclusively demonstrated, that under positive electrization the heart's action is stimulated, and contracts with greater energy, as indicated by sphygmographic tracings. The temperature, with the same insulation, and with sparks, was increased from .025 to .4 of a degree; while with the simple bath, positive insulation, there was an increase in the temperature of .5 of a degree.

The production of urea under the influence of the electro-positive bath was sensibly increased, its weight being elevated from 24.64 to 26.3 grammes. The same insulation with sparks increased the daily total of urea from 27 to 28, 30, 31 and 32.68 grammes. The electro-negative bath was followed by an increase in the volume of urine. In no other form of application was the volume sensibly increased or diminished, while under the same insulation with sparks the amount of urea was progressively diminished; but less with bath. The phosphoric acid in the urine was decreased under the negative electrization, but more so with the positive insulation.

The alkaline phosphates were diminished in the same proportion, but more so with positive than with negative; less with bath than with spark. The earthy phosphates were decreased under negative, less under positive electrization.

Thus we see by M. Damian's experiments that the heart's action is stimulated, the circulation improved, the temperature augmented, and the excretions increased. Further than this he has not yet demonstrated; but he

believes that there are effects which are as yet undemonstrable. A moral or psychic effect is universally conceded; but the above experiments have clearly proven that the influence of static electricity does not end there, as many are disposed to claim.

METHYLENE BLUE IN NEURALGIA AND MALARIA.—

According to the *Berliner klin. Wochens.*, No. 39, Drs. Guttman and Ehrlich have found a decided effect from methylene blue in malaria. Ten centigrammes of the chemically pure drug are given in capsule five times daily. Dr. Immerwhar states in the *Deutsche Med. Wochens.*, October 8, 1891, that under certain circumstances this same drug, given three times daily in doses of from two to five grains, gives relief in neuralgia, muscular rheumatism, and the nerve-pain of herpeszoster, but not in sciatica.

NITROGLYCERIN IN THE TREATMENT OF REYNAUD'S DISEASE.—Cates (*University Medical Magazine*, Vol. IV., No. 5, 1892) reports a case of Reynaud's disease—that is, symmetrical gangrene of the extremities—in which great relief was obtained by the injections of nitroglycerin, commencing with $\frac{1}{100}$ of a grain and gradually increasing the dose up to $\frac{1}{80}$ of a grain, three times a day. The patient grew better, sores healed and pain disappeared like magic, so that the routine duties of life were again made possible.

NEUROSURGERY.

REMOVAL OF THE TUBES AND OVARIES.—Dr. Wharton Sinkler (*Jour. N. and M. D.*) sums up as follows: The remote effects are, as a rule, to improve nutrition and better the strength, especially if the operation has been done for diseased ovaries or pus-tubes. Excessive gain of flesh is rare, and change of voice, growth of hair upon the face, and loss of feminine characteristics do not occur. The sexual appetite is seldom changed within two or three years, but after this time it becomes lessened. It is often the case that after this operation patients are more nervous than formerly and various mental disturbances, insanity and epilepsy, not infre-

quently follow. The influence of the operation is sometimes good upon insanity and epilepsy which are associated with severe dysmenorrhea, or occur periodically at the menstrual epochs; but when the insanity is constant, although aggravated at the monthly periods, removal of the appendages is of no benefit. Hystero-epilepsy is seldom permanently cured, and prolonged after-treatment is generally necessary. Local pain is often not relieved. Certain cases of neurasthenia, associated with dysmenorrhea, or structural changes of the ovaries, are cured; nevertheless, no such case should be subjected to the operation without beforehand having the benefit of prolonged and patient treatment. It is unjustifiable to remove the ovaries and tubes in cases of neurasthenia, hysteria, etc., when these organs are healthy.

CASTRATION AS A SUBSTITUTE FOR CAPITAL PUNISHMENT.—Dr. H. A. Shelley, corresponding for the *Medical News*, remarks on this subject as follows:

SIR:—At the last regular meeting of the New York Society of Medical Jurisprudence, held at the Academy of Medicine, on Monday evening, March 14th, General William A. Hammond, M. D., of Washington, read a paper entitled, "A New Substitute for Capital Punishment, and Means for Preventing the Propagation of Criminals" (*vide The Medical News*, April 2d, 1892, page 390).

Castration is not a *new substitute*, because it has been advocated since the year 1731 (*vide Medical Times and Gazette*, May 25th, 1872). Dr. G. F. French, June 11th, 1878, read before the Maine Medical Association a paper entitled, "The Eradication of Syphilis and Crime by the Extirpation, in that Class, of the Procreative Power."

Dr. Orpheus Evarts read before the Cincinnati Academy of Medicine, February 27th, 1888, a concise, complete paper, entitled, "Asexualization as a Penalty for Crime."

Castration is now a live practical topic in large cities. Social science is at present a "fad." Poverty must be abolished. Large families are the cause. What's the remedy? Castrate the husband or the wife. Let us have the ideal Malthusian marriage. Then war, pestilence and famine will not be needed to remove the overplus of population. Among married American people one child is the rule. Abortion has hitherto been the remedy. Let us give castration a trial. Let us be progressive. Onanism, sodomy, fornication, polygamy, polyandry, abortion, have had their day. The time is now ripe for something new—for castration.

EDITORIAL.

[The Editor is responsible for all Unsigned Editorial Matter.]

Alice Mitchell, the "Sexual Pervert," and Her Crime, are now being psychically and medico-legally considered before a Memphis, Tennessee, court and jury. Her trial began on the eighteenth instant, and her counsel have interposed the plea of insanity, to avert the legal penalty for the murder of her fated female fiancé Freda Ward.

The newspapers are discussing, and have discussed this case as if it were a foregone conclusion that a woman who, possessed of the reversed sexual instinct, or the erotism of a man in a woman's organism, the *contrare sexuellempfindung* of Westphal, the man's brain in a woman's body of Kiernan, and dominated by that feeling toward one of her sex as a man be toward the woman he loves, and making no resistance to its imperious sway and inspired by jealousy, destroys for strong motive the object who having once returned her love suddenly ceases to requite it, by transferring it to another, is necessarily insane.

In other words, the anomalous character of the crime proves the mental aberration of the slayer.

Instincts are not insanities—morbid feelings are not of themselves mental aberration. They may be a part of it or they may not, as wrong moral conduct sometimes is, but more often is not. Novices in psychiatry who never had any considerable experience in the treatment of insanity, will not be wanting, doubtless, who on the trial may boldly say, the act establishes Alice Mitchell's mental status, but this will not be the testimony of authority, nor will it be a reasonable deduction from the history of the thus far recorded cases.

It is not the dictum of psychiatry that a flagrant crime like that of murder, perpetrated for revenge or jealousy, or both, by a sexual pervert is of necessity an insane act. A deed of murder is not a psychical demonstration to the psychologist of the mental status of the possessor of the contrary sexual instinct, of Kraft-Ebing

and his colleagues, though men unknown to alienism, posing as experts upon a subject upon which they know nothing, and upon which the most experienced psychiatrists are not over well informed, may boldly declare it so.

Alice Mitchell may, or may not be insane, but the facts concerning her which have thus far been made public, or rather which have come to us through the public press, have not been sufficient to fix her mental status as an impossible lunatic, though they do seem to establish sexual perversity, but so are sodomy, pederasty or what the law calls the unnatural *crime* of buggery. Their perpetrators are moral perverts, but not lunatics.

The facts about this case of unnatural love and murder are briefly these: Alice Mitchell loved Freda Ward. They kissed, they embraced, they sought and enjoyed the most intimate companionship with each other as lovers of opposite sexes do. They were engaged to be married and to run away clandestinely. Alice presented and Freda accepted an engagement ring. Alice is said to have attempted Freda's life once before and her own, in despondency at the fear of Freda's waning affection. Alice's mother is said by her homœopathic family physician to have had puerperal insanity several times of a very evanescent character, but whether this was anything more than transient delirium is doubtful from the physician's description.

Alice is described in the hypothetical case as having been very much of a tom-boy, preferring masculine sports and occupations, and being allowed to indulge in them while growing up. She would "skin the cat," hang by her arms and legs, climb, play marbles, top and ball, and could shoot, ride horses and mules, and feed and curry them. She disliked any kind of needlework, as she naturally would after getting a taste of outdoor sport, and did not take to drawing or music, but the best musicians and the best artists are men. She entertained no masculine beaux and was rude and indifferent to them.

Freda Ward, the victim of Alice's perverted erotism and passion is described as different in her habits, tastes and affections for the opposite sex, but reciprocally in love with Alice. The opposite of Alice in demeanor—more feminine—but yet she loved Alice as Alice loved her. "They loved each other," says the hypothetical case of

defense, "not as girls, but as those of different sexes." But Freda also loved a young man, Ashley Roselle, and kept his photograph against Alice's remonstrance and charge of infidelity. Alice and Freda quarreled as lovers quarrel. Freda relented her love for Roselle and another young man, Harry Belger, and returned to Alice's embraces after the latter's upbraiding and solicitation. Together they planned an elopement, but Freda failed Alice at the critical time and the tragedy followed. Alice meets the delinquent Freda in the road side, upbraids her for her infidelity and cuts her throat with a razor, secured with premeditation and concealed for the purpose.

It is said that Alice still speaks of Freda as lovingly as ever, passionately kisses her pictures and seeks for them in the papers. She conducts herself without emotion, however, before the court, while others are moved to tears; weeps over Freda's death but does not lament the killing.

Such briefly is the pitiable, painful picture. Are you persuaded that Alice Mitchell was irresponsibly insane, or was the slaying of Freda Ward a passionate, revengeful murder by an imperious self-willed woman, under powerful revulsion of feeling because her disposition to unnatural dalliance was no longer to be requited? Gentlemen, neurologists, brother alienists, let us pause and consider before we conclude that irresponsibility is a necessary sequel to reversed sexual feeling unrequited and revenged in murder. If this is always insanity, then is extreme normal love, vented in violence upon the object of the opposite sex who responds not reciprocally? And if Alice Mitchell was insane, then what was the mental condition of her dead associate, for the testimony says, "they loved each other alike?"

The court and jury may find Alice Mitchell to have been insane, but will her insanity be that popular insanity which shields the wayward, passionate scions of the wealthy and influential or that undoubted mental disease of which the murder of her companion was but one expression—a disease of the mind recognizable by indubitable signs approved by the tenets of a sound psychiatry and attested in the clinical experience of all expert alienists. In the light of all facts thus far made public it would seem that the insanity of Alice Mitchell is still a mooted and mootable question. Yet this girl may be

insane, but if she should be found to be insane it will be because of other facts than that of contrary sexual feeling.

The Progress of Spermatotherapy in France.

—From a contribution to *Comptes rendus des séances de l'Académie des Sciences*, t. CXIV; *séances des 30 Mai et 7 Juin' 1892*, on the physiological effects of a liquid extract of the sexual glands and the testicular appendages, by M. Brown-Séquard, the distinguished *savant*, as well as from a personal letter from the distinguished author and from the C. R. of the Society of Biology, we glean the following interesting facts:

"*Locomotor Ataxia*.—Of thirty-nine cases treated by injection of the testicular fluid, thirty-one have been either greatly benefited or completely cured. Eight of these cases received only slight or no benefit at all.

"Besides locomotor ataxia, signal benefit is reported in tuberculosis, diabetes, anæmia, neurasthenia and numerous other affections with associated nervous debility.

"*The Management of Myxædema by the Thyroidian Juice*, prepared with all the security obtained by means of a D'arsonval filter and carbonic acid apparatus, shows remarkably satisfactory results—three cases of cure after ten days' treatment with the subcutaneous injection of healthy thyroid juice.

"Apropos of the preceding, Addison's disease is being combated in a similar manner, healthy liquids from the supra-renal capsules and the testicles of rams being subcutaneously injected. The strength improves greatly after a few days of this treatment, but the bronze color does not undergo change.

"The distinguished *savant* of the Rue Francois has himself gained in strength from a lifting power of thirty-seven to forty-five kilogrammes in two years, at a period of life when men usually decline, from the use of these subcutaneous injections, so lately much derided by the medical and secular press. It is reported to us on good authority that all of professional Paris is coming to have faith in the novel spermatotherapy, if we may be permitted to coin this term in lieu of the usual sentence employed to express the subcutaneous injections of the juice of the testicles and their appendages, as employed by M. Brown-Séquard in the laboratory of the College of France."

The Eighteenth Annual Meeting of the American Neurological Association, held at New York, June 22d, 23d and 24th, was well attended for the time of the year at which it was held, it being about one month in advance of most doctors' vacation season. An unusually entertaining and instructive programme was presented for the edification and instruction of the members, embracing, "Researches Upon the Etiology of Idiopathic Epilepsy," by Dr. C. A. Herter, of New York. "Sleep Movements of Epilepsy," by Dr. J. W. Putnam, of Buffalo. "The Seat of Absinthe Epilepsy," by Dr. Isaac Ott, of Easton. "Separate Provision for Epileptics, both Public and Private," by Dr. Henry R. Stedman, of Boston. "Progress in the Care and Colonization of Epileptics," by Dr. Frederick Peterson, of New York. "The Successful Management of Inebriety," by Dr. C. H. Hughes, of St. Louis. "A New Symptom Indicating Combined Cerebellar and Spinal Inco-ordination," by Dr. E. C. Spitzka, of New York. "Report of a Case of Infantile Cerebral Hemiplegia, with Autopsy (Microscopical Preparations by Dr. Warren Coleman)," by Dr. E. D. Fisher, of New York. "1, A Further Contribution to the Pathology of Arrested Cerebral Development; 2, Report on the Surgical Treatment of Epilepsy," by Dr. B. Sachs, of New York. "A Case of Brain Tumor, with Presentation of Specimens," by Dr. Wharton Sinkler, of Philadelphia. "Imperative Movements Associated with So-Called Pseudo-hypertrophic Infantile Palsy," by Dr. E. C. Spitzka, of New York. "Some Contributions to the Muscular Sense," by Dr. G. J. Preston, of Baltimore. 1, "On the Extent of the Visual Area of the Cortex in Man, as Deduced from a Study of Laura Bridgman's Brain;" 2, "The Criminal Brain, Illustrated by the Brain of a Murderer," by Dr. H. H. Donaldson, of Worcester. "Description of an Additional Chinese Brain," by Dr. F. X. Dercum, of Philadelphia. "Fissural Studies," by Dr. Burt G. Wilder, of Ithaca. "Microscopic Specimens Illustrating: 1, The Nerve Alterations in a Case of Beri-Beri; 2, The Nerve Alterations in a Case of Scleroderma; 3, The Alterations in Nerves Excised for Neuralgia," by Dr. J. J. Putnam, of Boston. "The Association of Hysterical Trembling and Anorexia Nervosa, with Report of a Case," by Dr. James Hendrie Lloyd, of Philadelphia. "Folie à deux, with Remarks on Similar Types of Insanity," by Dr. Charles

K. Mills, of Philadelphia. "Three Cases of Folie Communiquée," by Dr. James Hendrie Lloyd, of Philadelphia. "A Note on the Use of Exalgine in Painful Nervous Affections," by Dr. Wm. C. Krauss, of Buffalo. "Presentation of a Case of Huntington's Chorea, also one of Congenital Huntington's Chorea, the First on Record," by Dr. Landon Carter Gray, of New York. "Traumatic Nervous Affections," by Dr. Philip Coombs Knapp, of Boston. "The Basis of the Prognosis in the Traumatic Neuroses," by Dr. J. J. Putnam, of Boston. 1 "Three Cases of a Hitherto Unclassified Affection, Resembling in its Grosser Aspects, Obesity, but Associated with Special Nervous Symptoms, a Trophoneurosis;" 2, "Two Cases of Acromegaly, with Remarks on the Pathology of the Disease," by Dr. F. X. Dercum, of Philadelphia. "Diabetes in its Complementary Relations to Certain Forms of Mental Defects," by Dr. E. C. Spitzka, of New York. "The Toxic Origin of Insanity," by Dr. Theo. H. Kellogg, of Flushing. "A Study of the Sensory and Motor Disturbances Associated with Insanity from a Biological and Physiological Stand-point," by Dr. H. A. Tomlinson, of St. Peter. "Phthisis in its Relation to Insanity," by Dr. Thomas J. Mays, of Philadelphia. "Report on One Hundred and Sixty Cases of Epilepsy," by Dr. S. G. Webber, of Boston. "Hysterical Mutism and Other Hysterical Phenomena in a Child Twelve Years of Age," Dr. Wm. M. Leszynsky, of New York. 1, "A Case of Akinesia Algera;" 2, "A Case of Cephalic Tetanus." by Dr. J. J. Putnam, of Boston. "A Case of So-Called Abasia," by Dr. Morton Prince, of Boston. Preliminary Report of the Committee on Neurology. 1, "Progressive Muscular Atrophy, Presentation of Specimens with Remarks on the Functions of Certain Cell Groups in the Anterior Horn; 2, "Report of Two Cases of Fracture of the Spine for which Operations were Performed," by Dr. Graeme M. Hammond, of New York. "Two Cases of Severe Pressure Neuritis," by Dr. Wm. C. Krauss, of Boston. "The Pathology of Paralysis Agitans," by Dr. Chas. L. Dana, the President, of New York. "A Case of Rapidly Ascending Sensory and Motor Paralysis, Terminating Fatally, with Report of Autopsy," by Dr. Chas. K. Mills, of Philadelphia. "A Case in which Ligation of the Vertebral Artery for Supposed Aneurism, and Subsequently Trephining for Cerebellar Tumor, were Performed, with Autopsy Showing Gliomatosis of the Cerebellum, Pons

and Oblongata," by Dr. Chas. K. Mills and Dr. John B. Deaver, of Philadelphia. The entertainment features embraced a theater party, banquet, etc.

The officers for 1892 are : Dr. Chas. L. Dana, of New York, President ; Dr. Philip Coombs Knapp, of Boston, and Dr. Edward N. Brush, of Towson, Vice-Presidents ; Dr. G. M. Hammond, of New York, Secretary and Treasurer ; Dr. Wharton Sinkler, of Philadelphia, and Dr. E. D. Fisher, of New York, Councillors.

A Plea for the Study of Psychology.—Franklin A. Becher, of Milwaukee, Wisconsin, thus pleads for the study of psychology in our universities and with the best of reasons:

The perusal of a report, written by a member of the visiting committee of one of our universities, induced me to write these lines. In the course of the report the remark is made that the study of psychology is difficult, and therefore few students take the study. The importance and advantage derived from studying a subject are to be considered more than its difficulty. Its usefulness is determined by its educational value, and surely there is no subject of study more useful and beneficial than psychology, for all persons who deal with people require a knowledge of this subject.

Since psychology has been taken out of the field of metaphysics, and has entered the domain of the natural sciences, it has developed marvelously. The accuracy and stability it has attained are proportionate to its development. Biology has brought about this change. The former position psychology occupied was not so much to determine the relation and connection between mind and organism as to determine the science of pure thought. But now psychologists have studied the brain, anatomists have dissected the cerebral lobes, chemists have analyzed the different substances of the nerves and brain, and its size, weight, shape and specific gravity have been taken into account for the sole purpose of determining psychical phenomena; also the laws of development have been applied to the phenomena of the human mind. The study of animal instinct, the growth of children, the customs, habits and beliefs of early tribes and races, the study of defectives, the study of the brain and the senses and the logical connections of ideas, have all received their share of attention. There is no psychical phenomenon and no act of human conduct which does not come within the province of psychology. The sciences of ethics, of theology, of law, of jurisprudence, of history, of medicine, of pedagogy, and of politics presume a knowledge of the workings of the human mind. For who, unless competent to analyze correctly and justly the feelings, desires and motives that prompt action, would desire to determine the motives that underlie human conduct or pass upon the laws of right and wrong. How much more humane

would a person be in his judgment upon the acts and conduct of another if he knew the causes of them. How many mistakes would be avoided in the training and education of the young if parents and teachers were more conversant with the principles of psychology. How much more accurate could judges be in dispensing justice if they were less dependent upon their personal experience and knew more about the principles of psychology. What material aid could lawyers give in establishing the truth if they were well versed in the study of psychology. How many grave blunders could be avoided if statesmen and legislators understood more thoroughly the spirit of the times and the popular mind.

That the larger portion of professional men know little, if anything, about psychology cannot be denied; and if they do know something about the study, their knowledge is either founded on their personal experience and on common maxims, or it is derived from some book written from some particular stand-point. Most of such knowledge is incorrect and wrong, and it is one of the objects of psychology to correct these false notions.

In conclusion, I will quote John Stuart Mill, who has given an excellent statement of the reasons why psychology should be studied. He says: "Psychology, in truth, is simply the knowledge of the laws of human nature. If there is anything that deserves to be studied by man it is his own nature and that of his fellow-men; and if it is worth studying at all, it is worth studying scientifically, so as to reach the fundamental laws which underlie and govern all the rest. There are certain observed laws of our thoughts and our feelings, which rest upon experimental evidence, and, once seized, are a clue to the interpretation of much that we are conscious of in ourselves and observe in one another. Such, for example, are the laws of association. Psychology, so far as it consists of such laws, is as positive and certain a science as chemistry, and fit to be taught as such."

The Epilepsy Microbe.—The scientific world was astonished a few weeks ago by the announcement that a German professor had discovered in the lungs and liver of some dissected individual the microbe which causes the epilepsy. Nothing could have seemed more incredible, for the epilepsy is one of those nervous disorders, often hereditary, which has never been thought to have any analogy whatever with contagious or other epidemic disorders transmitted by personal contact or by contaminated substances breathed into the lungs or absorbed into the stomach, and little attention would have been paid to the alleged discovery if some phenomena had not been observed in France that appeared to confirm the theory. It appears that two young epileptics presented themselves at the

Pasteur Institute to be treated for the rabies. They underwent the usual inoculations, and were not only cured of this disorder, but, as was afterward observed, had no further attacks of the malady which they had inherited. Pasteur conferred with Dr. Charcot, who, as everybody knows, treats epilepsy, as he treats—and, it is asserted, cures—other nervous disorders, that is, by means of hypnotism. The latter shortly afterward sent to the institute another patient, who, after six weeks of the same treatment, was dismissed as cured, and the symptoms have not reappeared. Pasteur and Charcot were interviewed on the subject, but while virtually acknowledging the published statements to be correct, both refused to give any information as to what might be hoped from this new method of treating the epilepsy. The public is therefore left to draw its inferences. Pasteur, like Dr. Koch, who claimed to have discovered an antidote for the consumption, did not wish to make public the details of his mode of treatment until he had fully tested it.

The epilepsy is not a disease so universally disseminated as the consumption, but an efficient remedy for it would be a great boon to mankind. It is more common in France and probably in the rest of Europe than in the United States. In France over 60 per cent of the cases of insanity are attributed to it. In hydrophobia, as in epilepsy, the patient is subject to convulsions which have their origin in a distorted condition of the nerves, but beyond this general resemblance it is hard to see in what manner the two diseases can be related. If the treatment for hydrophobia will cure the epilepsy why will it not cure the lockjaw or the trichiniasis, since both these disorders are attributed to microbes of different kinds? If nervous diseases like those mentioned are caused by microbes and can be cured by inoculation with a mild form of the same poison it is possible that in time a corresponding treatment will be extended to milder forms of nervous derangement that are rapidly increasing in this overworked and mentally overstrained epoch, such as nervous headache of the chronic kind, hypochondria, or any and all forms of nervous prostration, which are the frequent cause of insanity. Whatever may be the result of all this investigation we seem to be carried back by it to the threshold of hygienic knowledge, to the very infancy of medical science. The things the doctors have to unlearn are many and those they have still to learn are infinite.

The Power of Imagination.—For centuries, tradition and literature have teemed with accounts of the potency of the human imagination for extinguishing life. In Goethe's "Elfenkoenig" the phenomenon has been beautifully embodied in song. In French medico-legal literature the accuracy of the following occurrence has been well established. A condemned criminal had been blindfolded and laid under the guillotine. The commencing sound of the drop was imitated, but his neck, instead of being severed by the knife, was lightly grazed with a disk of ice. The man was effectively killed solely by the shock of his imagination.

A similar remarkable case, which was lately reported from Wellington, Kansas, has attracted much newspaper notice. Several persons there indulged in the rude practical joke of masking themselves and dragging from his bed in the night a young man named Joseph Hardin. They bound him, took him outside the town, and accused him of a fancied crime, which he must expiate by being shot. They blindfolded his eyes, stood him on a box, which he was made to believe was his coffin, and then, at the word of command, a shot was discharged from a rifle which he had previously seen in their hands. One of the lynchers, at the same instant, touched the young man's occiput with the tip of a cane. The victim sank dead, and all efforts to resuscitate him proved fruitless.

These cases would possess greater scientific interest, and appeal more satisfactorily to the psychologist, could we be assured in every instance, by careful *post-mortem* investigation, that some grave physical lesion, as of the heart, did not underlie the fatal mental impression. If such a preparatory morbid condition were demonstrated, the death might fairly be attributed to the stress of excitement, rather than to imagination *per se*.

It must be admitted, however, that great harm has accrued to mental health, if not to life, by the wanton tampering with the imagination—of such kind, for example, as is sometime practiced upon unsuspecting candidates for secret orders, or in a college hazing, or in the realistic and cruel jokes perpetrated upon susceptible or hysterical girls.

In connection with the tragical Kansas event, the *New York Herald* naively inquires, "If a man may be killed or his health destroyed by the force of his imagination, why may not the same agency be successfully employed in saving life and in remedying disease?"

The readers of the ALIENIST AND NEUROLOGIST would deem a reply to this question superfluous. W. W.

The Barnes Hospital of St. Louis, and the Barnes Medical College.—St. Louis has recently been the fortunate recipient of a munificent bequest from Robt. A. Barnes, Esq., who left provision in his will for the founding of a hospital. The amount bequeathed is said to have exceeded one million dollars. This is the largest bequest for such a purpose ever made west of the Mississippi river, if not in the United States.

The people and the profession of St. Louis should appreciate this great deed of charity. Her philanthropists have not hitherto received the full meed of honor and praise they have been entitled to, or there would have been more of them. Humanitarians, like other people, like to be appreciated, and are probably not averse to the approbation and applause of their fellow-men. Very few of the philanthropists of St. Louis, however, have had their names proclaimed, *post-mortem*, except in connection with the immediate recipients of their charity. Thus the Mullanphy Hospital, liberally endowed by Bryan Mullanphy, is generally called the Mullanphy Hospital, and the Emigrant Relief Fund bears his name, because they could not well bear any other. Shaw's Garden bears the name of the man who gave it to the city, but nothing else bears this great benefactor's name but a brand of medium quality cigars. O'Fallon has a Park named in his honor, which we believe he gave to the city; and the Polytechnic School of Arts he founded is seldom known by the name of its founder, and who knows of the benefactions of Wayman Crow except through Memorial Hall, which he built?

A different view of what is due the great public benefactors of the city, is taken by the trustees of the new Medical College lately chartered for St. Louis. In recognition of the profession's debt of gratitude to its greatest benefactor in this locality, they have justly named the new college in honor and in grateful remembrance of Mr. Barnes, and it will in the career before it, honor Mr. Barnes, as the name of Mr. Barnes honors it.

Let the good work of thus attesting appreciation of benefactions received, and more similar bequests will follow. Charity loves a thankful recipient, whether that recipient be a single individual, or an aggregate of persons represented in the public.

Hysteria and Hypnotism.—In a letter from Milan, Italy, published in the *New Yorker Volkszeitung*, of May 22nd last, we find the following remarkable experience of an hysterical woman who successfully practiced hypnotism upon three army officers during a paroxysm of her disease. In order to release the latter from her influence it was found necessary to summon an Italian alienist of repute, Dr. Luigi Frigerio.

In the neighboring city of Alessandria, the wife of a government officer was siezed with convulsions while attending Mass in the Cathedral and was conveyed to her residence by the sexton with the aid of three young officers, who politely proffered their services. With much difficulty the four deposited her in an apartment of her own house, where she temporarily recovered. But before a physician could be obtained, she fell into renewed convulsions, screamed terrifically, and at the same time fixed the officers so intently and strongly with her gaze that the young men were manifestly affected. Meanwhile the husband of the patient and the family physician arrived. The officers who had so kindly bestowed their assistance, were thereupon thanked and politely requested by the medical man to retire from the apartment. But the request was far easier than their compliance with it. No sooner had they withdrawn several steps than the patient called to them with piercing shrieks to stop. The officers felt themselves to be suddenly bereft of all will-power, and remained chained to the room. This extraordinary and ridiculous state of affairs lasted during the remainder of the day and the whole of the night. On the following morning, Dr. Frigerio, a mental expert, was called in attendance, and succeeded in hypnotizing the woman. During her hypnotic sleep she was ordered by him to dismiss the officers, and upon awakening she quietly and without embarrassment obeyed, thereby relieving them completely of all impediment to their departure.

W. W.

The Pan-American Medical Congress has been incorporated under the laws of the State of Ohio. We agree with the *Medical Record* when it says: "This is a very wise and useful measure, although we believe the American Medical Association has existed for a number of years without having been made a corporate body. The incorporation was at the instance of a well known statesman,

who recognized the public and political (not partisan) importance of such a drawing together of men of science from the two Americas, and who believed that the general Government would aid the undertaking in a substantial way were they a body corporate legally empowered to receive and disburse money. Concerning the propriety of Congress making an appropriation to meet the needs of this meeting there can be, it seems to us, no question. It is, therefore, no more than just that the National Congress should aid the physicians who have undertaken this work. We should be in a condition to receive our guests in a becoming manner and to do them honor. As is seen in the regulations, the foreign members are to be charged no fee for registration, the total expense falling upon members residing in this country. It cannot, therefore, be said that the physicians in the United States are seeking to throw the entire burden upon the country. But as the nation will benefit by the holding of this Congress in 1893, it is but right and just that it should also contribute to make the Congress a success in every way, financially and socially as well as scientifically."

Lohengrin and the Swan.—The Berlin *Gerichts-Zeitung*, of May 3rd last, relates that a well-known merchant of that city was recently consigned to an insane asylum as the ending of a scene which was enacted by him on the river Spree, near Treptow. Promenaders on the banks of that stream were astonished by the sight of a large wash-tub which contained a man, who stood upright within and guided it along the current with an oar, at the same time singing at the top of his voice. Calls to him from the shore and warnings to land were unheeded, when finally a boat set out from Treptow, and sought to rescue the eccentric mariner. The boat was but a few yards from the wash-tub when the latter cap-sized and precipitated its occupant beneath the flood. After much pains he was hoisted into the rescuing boat and safely deposited on shore. He declared that he was Lohengrin and was in pursuit of his swan. It was then apparent to his questioners that they had to do with an insane man, and papers found on his person revealed his identity. It was later learned that the afflicted man had last year been compelled to give up a prosperous business on account of his deteriorated nervous and mental state. In a fit of insanity he had gone from Berlin to

Treptow, and there undertaken his adventurous voyage in a stolen wash-tub. W. W.

The Mississippi Valley Medical Association will hold its Eighteenth Annual Session at Cincinnati, Oct. 12th, 13th and 14th, 1892. An excellent program containing the best names in the valley and covering the entire field of medicine, will be presented. An address on Surgery will be delivered by Dr. Hunter McGuire, of Richmond, Va., President of the American Medical Association. An address on Medicine will be made by Dr. Hobart Amory Hare, Professor of Therapeutics and Clinical Medicine, Jefferson Medical College, Philadelphia. The social as well as the scientific part of the meeting will be of the highest order. The Mississippi Valley Medical Association possesses one great advantage over similar bodies, in that its organic law is such that nothing can be discussed during the sessions save and except science. The officers of the Pan-American Medical Congress will hold a conference at the same time and place.

Psychological Medicine in the British Medical Schools.—At a special meeting of the Medico-Psychological Association, of Great Britain and Ireland, held at Bethlem Hospital on Thursday, June 23rd, 1892, it was resolved:—

“That this meeting recommends to the Annual Meeting that a Board of Education be appointed to consider all questions affecting Medico-Psychological teaching. The Board to consist of all members of the Association who are lecturers and teachers of Psychological Medicines in the Universities or Medical Schools of the United Kingdom.”

Information Wanted as to Keeley Cure Subjects.—The editor of the *ALIENIST AND NEUROLOGIST* being under commission to investigate and report upon the Dwight Treatment of Inebriety, desires information as to cases of relapse to drinking-habits, of insanity, suicide, death, etc., of patients that have passed through the so-called cure of the drink habit. Correspondents will please give the names of patients, and as exact data as possible. No public use will be made of individual names, either of patients or of physicians (without consent), but in order to render the statistics useful we ask for the most accurate information possible.

Giacomo Inaudi, another Calculating Prodigy.—A new calculating prodigy in a young man, 24 years old, named Giacomo Inaudi, was presented to the Academy of Sciences by M. Darboux last February.

Inaudi was born October 13, 1867, at Onorato, in Piedmont, of a poor family. One of his brothers is a waiter at a café, another is a shoemaker. Giacomo passed his early years in watching sheep. Toward the age of six he was seized with a passion for figures. While watching his flock he combined numbers mentally. Unlike most known calculators, he did not try to give his calculations a material form by counting on his fingers or with pebbles, like Mondeux and Ampere. All Inaudi's operations were mental, and he made them with words representing the numbers which he had heard from his eldest brother. At that time, neither he nor his brother knew how to read. Thus he learned by ear the names of the series of numbers up to one hundred, and he set to work to calculate with those he knew. When he had exhausted the figures with which he was acquainted, he asked to be taught the numbers beyond one hundred, so as to extend the sphere of his calculations. He does not remember that his brother ever taught him the multiplication table. By continual practice the young calculator made rapid progress. When he was seven years old, he could make in his head multiplications of five figures.

Soon Inaudi left his native country, and with his brother went to Provence. The brother played an organ and Giacomo exhibited a marmot and held out his hand for pennies. To increase their small gains, the lad executed prodigious mental calculations. He aided the country people in making up their accounts. He exhibited himself in cafés, and solved with great rapidity all the arithmetical questions proposed to him.

Inaudi went to Paris for the first time in 1880, and was presented by Broca to the Society of Anthropology. Then he could neither read nor write. Since then he learned reading and writing, and enlarged the sphere of his operations. His education began so late that it is but rudimentary in many respects; but he is intelligent, talks agreeably, with good sense, sometimes with irony. He is very skillful at cards and billiards. He has a good head, with an immense square forehead, as high as it is broad. At the Salpêtrière, under the direction of Dr Charcot, he

has been studied and lectured upon and written up in *La Progrès Medical*.

The operations executed by Inaudi are additions, subtractions, multiplications, divisions, extractions of roots. Besides, he resolves by arithmetic problems corresponding to equations of the first degree. All these operations are effected by mental calculation. This phrase I use to signify a calculation which is done in the head, without employing a reading of the figures, or writing or any material means whatever to aid the memory. In general, Inaudi proceeds in this fashion: When you give him a problem by word of mouth, he listens attentively and repeats what has been told him, articulating clearly, in order to fasten it in his mind. If he has not understood what has been said to him, he makes you say it again. You may give him the problem in writing, but he prefers to receive it through his ear, and if you insist on his reading it, he utters it in a low voice. When he has thoroughly comprehended the question put to him, he says: "I begin," and he proceeds to whisper very rapidly, with an indistinct murmur, in which you can distinguish, now and then, some names of figures. While this is going on, nothing can move or distract him; he performs the most complicated calculations in the midst of the noise of public representations. Still further, he can talk while he is working mentally. He answers questions appropriately, even sustains a regular conversation, without his arithmetical calculations being interrupted. Only in that case the calculation takes a little longer. After a time, which is always very short, he says: "I have done," and he announces the solution, proving it for his own satisfaction.

Inaudi adds in a few seconds seven sums of from eight to ten figures. He makes a subtraction of two sums of twenty-one figures each in a few minutes. He finds as rapidly the square root, the cube root of a sum of eight or ten figures, if the sum is a perfect square. It takes him a trifle longer when, after the extraction of the square or cube root, there is a remainder. With incredible quickness he finds the sixth or seventh root of a sum of several figures. He makes a division or a multiplication in less time than it takes to enunciate the problem. To give a particular example, Inaudi was asked how many seconds there are in eighteen years, seven months, twenty-one days, three hours. He gave the answer in thirteen seconds.

The Neurotic Theory of Morbus Addisonii has received another confirmatory proof in a case reported by Raymond in *Le Progrès Medical*, in March of the present year. The autopsy showed healthy supra-renal capsules. The right semi-lunar ganglion was found to be sclerotic, the nerve cells were pigmented, vacuolized and thinned; some of them were atrophied. The cord was healthy. Raymond himself regards this case as additional evidence that Addison's disease is a neurosis. This patient was a young woman of twenty-seven years—a very young subject!

Dr. Theodore Meynert, Professor of Nervous and Mental Diseases in the University of Vienna, died on May 30th, aged fifty-nine years. Professor Meynert was one of the most eminent anatomists and alienists of modern times. His contributions to the anatomy of the nervous system were numerous and original, and gave a great impetus to investigations in this line. He wrote a treatise on the anatomy and diseases of the fore-brain, which embodies many of his researches.

Dr. Bateman Knighted.—Readers of the *ALIENIST AND NEUROLOGIST*, most of whom are familiar with his work on "Aphasia and the Localization of the Faculty of Speech," will be pleased to learn that Frederick Bateman, M. D., M. R. C. P., of Norwich, has had the the honor of knighthood conferred on him by his Government.

American Medico-Psychological Association.—The name of the Association of Medical Superintendents of American Institutions for the Insane has been changed by a unanimous vote of the Association to that of the *American Medico-Psychological Association*.

Back Numbers Wanted.—The following numbers of the *ALIENIST AND NEUROLOGIST* are wanted: January, 1881; January, 1883; April, 1889, and April, 1890. Address: *ALIENIST AND NEUROLOGIST*, 500 N. Jefferson ave., St. Louis, Mo.

Dr. D. P. Skolosubow, who held the chair of Neurology, in Kasan, Russia, died some little time ago, at the age of fifty-three.

Fischel, a distinguished psychiatrist, of Prague, died in that city, on June 4th, at the age of seventy-nine.

CORRESPONDENCE.

SECTION ON NEUROLOGY AND MEDICAL JURISPRUDENCE OF THE AMERICAN MEDICAL ASSOCIATION, }
CHICAGO, June 9th, 1892.

Some of the papers were of special value, particularly that on "Nerve Regeneration After Suture," by Dr. W. H. Howell, of Ann Arbor, and the paper on "Heredity in Primary Degeneration of the Nervous System," by Dr. Sanger Brown, of Chicago. Other valuable papers were those by Dr. C. H. Hughes, of St. Louis, on "Hysterical Concomitants of Organic Nervous Disease;" on "Retinal Excitation of Cortical Origin in Visual Hallucination," by Dr. C. G. Chaddock, of Traverse City, Michigan; On "Electrical Execution," by Dr. A. D. Rockwell, of New York; on "The Reflex Theory in Nervous Disease," by Dr. L. Bremer, of St. Louis; and on "Reflex Genito-Urinary Neuroses," by Dr. G. Frank Lydston, of Chicago. Inebriety received full consideration from Drs. Crothers, Dewey and others. Dr. J. G. Kiernan, of Chicago, contributed a valuable paper and instructive points to the discussions. Dr. Emerson, of Detroit, and Dr. Evarts, of College Hill, Ohio, were active in the work of the Section. From the East, Dr. F. X. Dercum and Dr. Charles K. Mills, of Philadelphia, were present and took part in the discussion. Dr. Mills read a paper on "Disorders of Pantomime Among Aphasics."

Dr. Moyer, the chairman, presided with a dignity and decorum equaled only by his energy in making the Section a success.

Dr. Charles K. Mills, of Philadelphia, was elected chairman and Dr. James G. Kiernan, of Chicago, secretary.

The Frontispiece.—We can supply a limited number of the frontispiece engraving of Dr. Pliny Earle to our subscribers, postage prepaid, for ten cents each.

IN MEMORIAM.

PLINY EARLE, A. M. M. D.—The death of this distinguished American Alienist, at his home in Northampton, Mass., May 17th, severs the last link in the golden chain that bound the American psychiatry of the present to the past—a chain made of such sterling stuff as the Rays, the Brighams, the Butlers, the Galts, the Tylers and the Stribblings. But one remainder of this golden era remains with us yet in body as well as spirit, the venerable Joseph Workman, of Toronto, and he lives on the other side of that only line which divides American from British Alienism—a geographical one. Dr. Earle was the last survivor of the original thirteen founders of the Association of Superintendents of American Asylums for the Insane, now the American Medico-Psychological Association.

Dr. Earle was one of the earlier contributors to this journal and encouraged it and showed his faith in it from its foundation by subscribing for ten years in advance. He was physically and mentally a handsome man, broad of observation and keen and logical in reason—a style of man of which the profession in general of his native section and American Alienism were and are justly proud, and they will venerate his noble memory.

From a biography written by Rev. A. H. Coolridge, we glean the following history:

Dr. Pliny Earle was the fourth son of Pliny Earle, the great-grandson of Ralph Earle, who came to Leicester in 1717. His mother was the daughter of William Buffum, of Smithfield, R. I. He was born December 31, 1809, and his childhood was passed in the home of his father at Mulberry Grove. He was a pupil in Leicester Academy, and afterwards in the Friends' School, in Providence, R. I., where he was a teacher in the winter of 1828–29, and also from 1831 to 1835, when he was made principal.

He pursued the study of medicine, first with Dr. Usher Parsons, of Providence, and afterwards at the University of Pennsylvania, from which he was graduated with the degree of M. D. in 1837. The next two years were spent in Europe; one in the medical school and

the hospitals of Paris, and the other in a tour of professional and general observation, "in which he visited various institutions for the insane, from England to Turkey." The results of these observations were published in 1840, in a pamphlet entitled "A Visit to Thirteen Asylums for the Insane in Europe." He had an office in Philadelphia for a short time, but in the spring of 1840 became resident physician of the Friends' Asylum for the Insane, near Frankford, now a part of Philadelphia. In 1844 he was appointed medical superintendent of the Bloomingdale Asylum for the Insane, in New York City. In 1849 he made another tour in Europe, visiting thirty-four institutions for the insane in England, Belgium, France and the Germanic countries, and, upon his return, published his book upon "Institutions for the Insane in Prussia, Austria, and Germany." In 1853 he was elected a visiting physician of the New York City Lunatic Asylum on Blackwell's Island.

In 1855 he returned to Leicester for rest and the confirmation of his health, and passed several years on the homestead of his grandfather, Robert Earle, near Mulberry Grove (now called "Earle Ridge"). During this time, however, he spent the winters of 1862-63 and 1863-64 in the care of the insane soldiers of the army and navy, at the Government Hospital for the Insane, near Washington, D. C., of which his former pupil, Dr. Charles H. Nichols, was superintendent. He also wrote for the medical periodicals, and acted as an expert in the trials of several important cases involving the question of insanity before the legal tribunals of Massachusetts and the adjoining States.

Without seeking the position, he was appointed superintendent of the State Lunatic Hospital at Northampton, Mass., July 2, 1864, and held the office twenty-one years and three months, resigning it October 1, 1885. He made that hospital in many respects a model institution for the insane; and its trustees, in the resolutions passed at the time of their acceptance of his resignation, expressed as follows not only their own conviction, but the general judgment with reference to the value of his administration: "In its management he has combined the highest professional skill and acquirement with rare executive ability. By his patient attention to details, by his wisdom and firmness, his absolute fidelity to duty and devotion to the interests of the hospital he has rendered invaluable service

to the institution, and to the community which it serves."

They then also expressed the hope that "he will continue to make his home in the institution, that they may continue to profit by his counsels;" and they provided that his rooms should always be open and ready for his use. This offer Dr. Earle accepted, although his summers were spent at Mulberry Grove.

The Northampton Hospital had been erected in opposition to a widely prevalent opinion that it was not, and never could be, needed—an opinion which delayed its construction, made the obtaining of appropriations very difficult, and finally compelled the trustees to put it in operation in a very incomplete condition, internally. The Civil War had tended to restrict the price of board for public patients to a very low limit, and in 1864, when Dr. Earle took charge of it, it had never paid its current expenses. He immediately addressed himself to the task of making it not only a first-class curative institution, but a self-supporting one as well. He purchased supplies at wholesale and in open market. He reorganized and reduced to a very complete system all the departments—domestic, economical, financial and medical—with checks and counter-checks for the detection of loss, or of waste by carelessness, as well as for the exposure of unfaithfulness in the discharge of duty toward the patients, or in other respects. The so-called "moral treatment" of the patients was amplified, made more diversified, and extended over a greater portion of the year than in any other American hospital.

The pecuniary results of this system were the payment of current expenses in the second year, and, during the whole period of Dr. Earle's service, the purchase of land at a cost of over twenty-five-thousand dollars; the payment for all ordinary repairs, and over one hundred and seventy-three thousand dollars for buildings and other improvements, and an increase in cash assets and provisions and supplies of over forty-three thousand dollars, all of which became, of course, the property of the State, without any assistance from the State. The results, as productive of an improved curative institution, being less tangible, cannot well be illustrated, but as reflected in current public opinion, they were equally successful.

The importance of occupation for the insane was early recognized by Dr. Earle, and it has nowhere in New England been practically applied to a greater extent than

than at Northampton. As early as 1870 it was estimated that not less than two-thirds of the manual labor necessary to the running of the hospital was performed by patients.

Believing that a large part of the excessive cost of such hospitals as that at Danvers adds nothing to the curative capability of the institution, Dr. Earle condemned such expenditure as unwise political economy, ostentatious charity and gross injustice to the payer of taxes.

Dr. Earle has been instrumental in introducing important changes in the treatment of the insane. In 1845 he established a school for the patients in the men's department of the Bloomingdale Asylum, and this was continued for two years. As early as 1840, while in the Frankford Asylum, he gave illustrated lectures on physics to the inmates. "This was the first known attempt to address an audience of the insane in any discourse other than a sermon, and has led to that system of entertainments for the patients now considered indispensable in a first-class hospital." At Northampton he gave a great variety of lectures, upon miscellaneous subjects. One course of six lectures was upon Diseases of the Brain, which are accompanied with mental disorder. The average number of patients who attended them was two hundred and fifty six. "This is the first time," he says in his annual report, "that an audience of insane persons ever listened to a discourse on their own malady." His observation of the effect on the audience was not unlike that of other preachers. If the listeners were slow to take the application to themselves, they were quite ready to appropriate it "to their neighbors." He also secured lectures and entertainments from other sources, and provided amusements in which the inmates participated..

Dr. Earle is the author of many papers upon insanity and other subjects, which have been published in the *Journal of Insanity*, the *American Journal of the Medical Sciences*, etc. Some of these have been issued in pamphlet form. He anticipated by many years the valuable treatise of Dr. B. Jay Jeffries, in a paper on "The Inability to Distinguish Colors." His twenty-two reports of the Northampton Hospital are classics in the literature of mental disease. By a combination of causes the public, so far as they knew or cared about the subject, had come to the belief that from seventy-five to ninety per cent. of

the insane can be cured at the hospital. Dr. Earle became convinced of the erroneousness of this belief, and was the first hospital superintendent who combated it. His researches upon the subject extended over a series of years, were embodied in his annual reports, and at length, in 1887, collected and published by the J. B. Lippincott Company, in a book entitled "The Curability of Insanity."

The doctor showed that one cause of the false opinion in regard to curability was the reporting of repeated recoveries of the same person, in paroxysmal insanity. One patient was reported cured six times in one year, another seven times, a third sixteen times in three years, and a fourth forty-six times in the course of her life, and she finally died a raving maniac in one of the hospitals. Judging from the results of the doctor's researches, not one-third of the persons admitted to the Massachusetts insane hospitals have been permanently cured.

Of his work on "The Curability of Insanity," a reviewer writes: "This book may mark an epoch in the literature of insanity, since it has changed the whole front of that literature, and set in motion investigating forces which will carry out its main doctrine into many useful details, upon which the veteran author has not dwelt."

He wrote the article on insanity in the United States Census of 1860, and about ninety articles of reviews and bibliographical notices of insane hospital reports and other publications on mental disorders, which appeared in the *American Journal of Medical Science* between the years 1841 and 1870.

In a third visit to Europe, in 1871, he visited forty-six institutions for the insane in Ireland, Austria, Italy and intervening countries. His several foreign tours gave him opportunity to form the acquaintance and enjoy the hospitality of many professional, philanthropic and literary people: he was well acquainted with Elizabeth Frye, knew the poet Samuel Rogers, and, at their own homes and tables, met socially the Howitts and Charles Dickens. He also cherished pleasant memories of American missionaries in the Levant fifty years ago; of Rev. Jonas King and other missionaries in Athens; Cephas Pasco, at Patras; Simeon Calhoun and David Temple, of Smyrna; Wm. Goodell, Rev. Mr. Shaufler and Henry A. Homes, at Constantinople. He received kind attentions from all of them, and the home hospitality of several.

Dr. Earle was one of the original members and founders of the American Medical Association, the Association of Medical Superintendents of American Institutions for the Insane, the New York Academy of Medicine, and the New England Psychological Society, of which last-mentioned association he was the first president. He was also president, in the official year 1884-85, of the Association of Superintendents. Besides holding a membership of various medical societies, he was a member of the American Philosophical Society; fellow of the New York College of Physicians and Surgeons; corresponding member of the New York Medico-Legal Society and the Medical Society of Athens, Greece, and honorary member of the British Medico-Psychological Association. In 1853 he delivered an adjunct course of lectures on "Mental Diseases" at the College of Physicians and Surgeons in New York City, and in 1863 he was appointed Professor of *Materia Medica* and Psychologic Medicine in the Berkshire Medical Institute at Pittsfield, Mass. Insanity had never before been included among the required subjects of instruction in any full professorship at any one of the American medical schools. After the delivery of one course of lectures the doctor resigned his professorship, as he had been called to the superintendency of the Northampton Hospital.

In 1888 he published a large volume on the genealogy of the Earle family, a work of great labor, and a model of its class. From this book many of the dates and material facts of this biography are taken. Dr. Earle, up to his death, held his birthright membership in the Society of Friends.

Dr. Earle's generous and valuable gift to the academy in which he pursued his early studies has been elsewhere noticed. He has never wavered in his attachment to Leicester, and its people claim him as one of her honored sons.

Dr. Earle was often called as an expert in criminal cases. Among them the most important are those of Peck, at Greenfield, Mass.; Eastman and Montgomery, at Northampton, Mass.; Smith at Springfield; Clark at New Haven, Conn.; Thurston at Ithaca, New York; Klein and Russ in New York City; and Charles J. Guiteau at Washington, D. C. In the case last mentioned, after an attendance of a week he was obliged, by illness, to withdraw.

"Of trials before the tribunals of civil law in which he has been thus engaged, the most widely known are: the Parrish Will Case and the suit for setting aside the marriage of Mary H. Croes, alias Patterson, both in New York City."

The will case was probably the most important trial of the kind ever adjudicated by an American court.

EXTRACTS FROM CONTEMPORARY JOURNALS.

Dr. Kiernan in that facile and clear style so well known to readers of the *ALIENIST AND NEUROLOGIST*, who read his always interesting contributions to our pages, gives one of his characteristically discriminating clinical differentiations on the subject of Paretic Dementia, discussing this disease (always interesting to the psychiatrist and neurologist), under the caption of "'Impure' Paretic Dementia," in the June number of the *Review of Insanity and Nervous Diseases* as follows:

Many European and some American alienists have drawn the line between insanity attacking an intact organization and attacking one already disordered by heredity or disease. What is true of insanity is also true of paretic dementia. This certainly becomes tinged with certain features according to the organization it attacks. The organization attacked may already be the victim of a constitutional disease like phthisis, in which case the emotional exaltation of the *spes phthisica* becomes exaggerated by the emotional state of true paretic dementia, permeated, however, by a suspicious phase. The claim has been made that these are not paretic dementia plus the individual defect, but new types of paretic dementia. Fournier has gone so far, for example, as to claim that syphilis produces a pseudo-paretic dementia. I have already shown that exceedingly valid grounds exist for not admitting the existence of such a type. Bonnet has recently supported the position taken by me in a memoir crowned by the French Medico-Psychological Association. Régis has gone even further than Fournier, for he claims that beside the type of paretic dementia, which becomes developed in its own time, and which is the true paretic dementia, there are other cases which occur unexpectedly, sometimes before, others after the ordinary period, which may be said to range between the ages of twenty-five and sixty-five years. The first may be designated as premature paretic dementia, the second as late paretic dementia. Cases before the age of twenty-five years are very rare, and only a few cases are recorded coming on before the age of twenty. The premature type, unlike the ordinary type, has always a powerful ætiological factor, such as heredity, syphilis, traumatism, saturnism, or general or local diatheses. These causes appear to determine in those cases an early predisposition, and prematurely to place the brain in those conditions in which it is found in mature life. Premature

paretic dementia has a slower progress and a longer duration; it is more frequently subject to remissions and is susceptible of a more or less permanent cure. To the designation premature and to the positiveness of the position here taken, I have shown that most decided objections exist. The symptoms which Régis has grouped under this title may appear at any age and are due not to the age but to the organism attacked. A careful examination which was made of the subject some years ago, demonstrated to me that this was the true explanation of the facts cited by Régis in support of his position. Whatever be the ætiological factor the organism attacked tinges the paretic dementia and not the ætiological factor. The normal organism furnishes the typical paretic dement. The organism in which a neurosis has been set up by phthisis, lues, gout, rheumatism, traumatism, lead poisoning, insolation, heredity, ataxia or other causes, furnishes atypical cases of paretic dementia presenting many features in common. These atypical cases simulate those of other psychoses at various times during their progress. Foville states, for example, that during the last few years cases of paretic dementia have been noticed in which delusional states added to muscular agitation, assumed alternately the form of maniacal exaltation and melancholic depression, and it has been proposed to class these as paretic dementia, a double form. The chance of error that we most often meet with is the possibility of confounding the period of excitement of circular insanity with the beginning of the expansive period of paretic dementia. The resemblance may be very great both as regards bodily and mental symptoms. When intellectual disorder is added to the maniacal exaltation of circular insanity, it frequently assumes the form of grandiose delusions so frequent in paretic dementia. Even when there is no delusion, properly so called, the resemblance may be very great. The mind deranged with enterprises, the opinion of self in the intellectual, artistic and poetical domain exaggerated, the optimism generalized; in a word, accompanied by impulses to theft, to excesses of all kinds, to the most compromising actions, might produce the appearance in the two psychoses of almost identical characteristics. It is well known that certain paretic dementa at the beginning of their excitement may not present any speech or motor disorder. On the other hand, in certain cases of circular insanity, the close connection between the emotions and the cerebral activity may impart to the speech a degree of tremulousness very distinguishable from that of paretic dementia. Finally, as Falret, has shown, in a few cases of circular insanity, pupillary derangements, apoplectiform and epileptiform attacks have been noticed. A psychic element of great value would be the inception of dementia which is common enough at the onset of paretic dementia to be considered constant. But this is often so disguised in consequence of the general state of excitement that it is almost impossible to ascertain its existence. Régis thinks he has found a criterion in the nature of the patients' feelings. He claims that the paretic dement is really kindhearted, generous and even prodigal, desirous of being agreeable to

everybody and spreading around him the treasures of a common benevolence. The patient suffering from circular insanity is wicked above everything, cantankerous, ironical and clever in injuring everybody.

Falret forcibly says : "We are far from denying this is often so, but we have known parietic dements who were caustic and mischievous, and patients suffering from circular insanity may be found who are generous and benevolent."

Giles states that circular parietic dementia bears the same relation to circular insanity that exalted and depressed periods do to mania and melancholia. It is especially frequent in hereditary cases. The remissions occur with great suddenness and apparent completeness. In the depressed period intellectual and organic failure with trophic disorders occur. In the expansive period temporary amelioration is likely to occur. Eschars, congestive attacks, the menstrual period, and acute diseases favor the transition of one phase into another. Circular parietic dementia may appear suddenly after one or two attacks of simple insanity, or in the course of true circular insanity, the alternating type being most frequent. The duration of the psychosis is longer than the ordinary type of parietic dementia.

How difficult the diagnosis between parietic dementia and circular insanity sometimes is has been shown in one of my own cases. This patient, who has a strong hereditary taint, is regarded by me as a parietic dement and by Drs. Dewey and Bannister as a case of circular insanity. The insolation, traumatic, luetic, and phthisical types, but particularly the hereditary taint types have a particular tendency to assume this circular phase.

The rheumatic and gouty types have prolonged remissions, which may, as Spitzka, Régis and myself have observed, pass into recoveries. In my experience the other types do not recover as Régis claims, but there is a long-lasting, querulent, paralucid condition, in which the patient, while retaining to a limited degree his former exalted opinion of himself, conceals this under resentment evinced in law-suits or fault-finding. This exalted opinion is often the result of a delusion of memory. The same is true of the depressional delusions, which are sometimes so thus retained as to affect business transactions. One of my patients with decided hereditary stigmata was attacked by parietic dementia. His periods of exaltation and depression alternated twice or thrice and disappeared, leaving a paralucid, querulent, pessimistic state. He had an inward conviction, from what were evidently memory delusions based on his former depression, that everything was going to go wrong with his business. Under the influence of this state he sold out some stock, which, by a bear movement induced by a law-suit, had been forced down in value. This law-suit and the resultant "bear" movement had been foreseen by him, when he purchased the stock. The

stock rose above par within a week after he sold it. The remission gave place to a period of depression followed by one of emotional exaltation, during which he was committed to an insane hospital. Suit was brought by his conservator to annul the sale of the stock. The jury under the instructions of the court decided that the sale should stand. This decision was in full accord with repeated decisions of the Illinois and Iowa Supreme Courts, which hold persons of unsound mind are to be held bound by an executed contract or conveyance where the transaction is fair and reasonable, and in the ordinary course of business, and where the mental condition of the party is unknown to the second party, and the parties cannot be placed in *status quo ante*. In another case with hereditary taint complicated with lues, there occurred periods of paralytic querulence, emotional depression and exaltation. The patient previous to the demonstrable onset of the paralytic dementia had contracted to have two houses built. The contractor after making several sub-contracts failed. The sub-contractors demanded payment of the paralytic for work for which the contractor had been previously paid. This was refused. The patient was sent to an insane hospital, whence he was discharged in a paralytic querulous interval. Despite my advice to the contrary he was placed in charge of his property. In a short time he verbally agreed to pay the contractors their bills. Owing to a new period of exaltation requiring hospital treatment, these promises were not fulfilled, whereupon suit was brought. The jury decided for the plaintiffs for the same reason as in the previous case.

These impure types are hence of peculiar forensic interest, since they nullify the ordinary prognosis as to the duration of remissions in paralytic dementia and of the disease itself.

A prominent clinical feature of these cases is the temperature. Rottenbiller has found the paralytic temperature is sub-normal, and that extraordinary daily variations, without apparent cause, are frequent (in one case the temperature rose from 97° F. in the morning to 102.60° F. in the evening, and fell again to 88° F. the next morning); these characteristics are present in the early stages of the disease and in remissions. This in my experience has been almost exclusively the case with the premature paralytic dementias. In these the asymmetrical axillary temperature to which I called attention nearly a decade and a half ago, is peculiarly frequent.

Régis has sufficiently, albeit too strongly, covered the point of age. The luetic, gouty, rheumatic, traumatic and hereditary types may occur at any age. The luetic cases resulting after the age of 65 are of rather long duration. In three such cases the patient reached the age of 73, but each resided the whole period in an insane hospital. In three hereditary cases occurring after 65, (one male, two females) of less duration, (six years) three sons were also afflicted at from 17 to 23 with paralytic dementia. The sons died, ere their parents from intercurrent complication due to trophic changes; the spinal symptoms were especially

predominant. In epileptics who became parietic demented at the climacteric period, the psychosis ran its usual course and rarely lasted three years after its onset. In ataxics, however, the remissions were frequent and protracted but querulency existed. As to race the Hebrew seems to be peculiarly liable to this type. Lues and heredity often in them prepare the soil which the psychosis attacks. Indeed, pure parietic dementia is, in my experience, rare with Hebrews in New York and Chicago. These impure types are proportionately much more frequent with them than any other race. The features by which Régis attempted to demarcate circular insanity from parietic dementia would serve excellently to demarcate impure from pure parietic dementia.

THE DIFFERENTIAL DIAGNOSIS OF INSANITY.—There appeared in the *Occidental Medical Times* of January, 1892, an editorial on the above subject, in which the author asserts that the practical idea of the medical examination of a suspected *non compos mentis* is to determine whether or not the patient is sane, and that is all the law exacts.

The current idea that the judge or almost any layman can tell whether or not a person is crazy, has led to a common belief that a medical examination is unnecessary.

While such might be the case in a few instances, it would lead to serious error in the more obscure forms of psychical derangement.

To differentiate between a permanent or primary mental aberration and a temporary one which is secondary to a physical ailment, requires great medical knowledge and broad experience. These are often lacking in the examiners of his State (California), and as proof the editor cites several cases which had been admitted to asylums in which the mental condition was secondary to existing physical disease. Two cases were oropous pneumonia with cerebral symptoms. One of these died thirteen and a half hours after admission, the autopsy revealing gray hepatization of both lungs.

Two patients were suffering from uræmia, one of whom when admitted had high fever and oedema of the lower extremities and lived but ten hours after his admission to the asylum. This patient had traveled 100 miles, forty miles of which was by stage.

A case of typhoid fever was admitted with high fever and in deep stupor, afterward becoming delirious, and died with symptoms of meningitis. One was a case of cerebral hemorrhage of traumatic origin, and another was received at the asylum in a state of collapse, dying a few hours after arrival.

These were not subjects for an insane asylum. Besides, the exposure and delay consequent to the long distances these patients frequently travel, are directly injurious to the patient.

Such errors could and should be averted by a critical examination by competent medical practitioners. There is need of applied psychiatry, and a vocation for the psychological expert in California outside of the asylum circles there.

B.

REVIEWS, BOOK NOTICES, ETC.

D. HAYES AGNEW, M. D., LL.D. Biographical Sketch by his Pupil, Friend and Assistant, DeForest Willard, M. D.

When posterity shall make its record of the eminent medical men of our time it will say, "there were giants in those days and the name of D. Hayes Agnew was chief among them." He was a pre-eminently brilliant light in a shining galaxy of medical stars. His achievements, his skill, the usefulness and purity of his life and the nobility of his character, crowned him one of nature's noblemen. His profession was proud of him, and there was nothing about him of which the best of the world might be ashamed.

ATAXIA. By J. T. Eskridge, M. D., formerly Post-Graduate Instructor in Nervous Diseases in the Jefferson Medical College, and Physician to the Hospital of the College, etc., etc.

HYSTERICAL PARAPLEGIA IN CHILDREN. By Henry Hun, M. D., Professor of Diseases of the Chest and Nervous System in the Albany Medical College.

ON CERTAIN PECULIARITIES OF THE KNEE-JERK IN SLEEP IN A CASE OF TERMINAL DEMENTIA. By William Noyes, M. D., Assistant Physician and Pathologist, McLean Asylum.

DISEASES OF THE NERVOUS SYSTEM. By J. A. Ormerod, M. D., Oxon., F. R. C. P., Lond., Medical Registrar and Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital; Physician to the National Hospital for the Paralyzed and Epileptic, Queen Square, London, etc. P. Blakiston, Son & Co., Pubs., 1012 Walnut Street, Philadelphia.

This little volume, the best of its kind in any language, is presented with a modest preface of encouragement to the student of neurology, indicative of the philanthropic impulses of its able author. The author says:

"The subject of nervous disease, attractive though it be, is apt to inspire the beginner with a feeling of dismay—it grows so fast, it has so many roots and branches, it presupposes so much knowledge and demands so much expenditure of time. Thoroughly to grapple with it, he will indeed require much patient clinical work, as well as study of those excellent and elaborate treatises which happily exist. This little volume is offered to him as no substitute for those, but only as an introduction to his work and outline map of territory to be acquired; and should it thus prove to him, perhaps by its very smallness, an encouragement and aid, then it will have served its end."

The book opens with an anatomical and physiological description of the nerve-cells, nerve-fibers, nerve-trunks—spinal cord, its segments

and tracts—medulla oblongata, pons, and crura cerebri—cerebellum—cerebrum, its cortex, white matter, ganglia and vessels, and then proceeds to discuss the morbid anatomy of the nervous system, embracing parenchymatous, inflammatory degenerative diseases, etc. The author then passes on to discuss motor and sensory paralysis and other anomalies of motor and sensory function, including the reflexes, incoordinations, vertigoes, aphasias, and other speech defects, comas, etc.

The eye, its motor and visual derangements and the structural changes of its fundus, and the disorders, of the senses of hearing, smell and taste are all succinctly and ably treated in the chapter.

Local symptomatology or symptoms referable to special districts, viz.: electrical examination—the face; paralysis, spasms, neuralgia, hemiatrophy—the tongue, palate, larynx, respiration—the upper limb; its muscular mechanism, nerve-supply and nerve trunks—the trunk, neck; erect posture—the lower limb; its muscular mechanism and nerve-supply; walking; sciatica, are well discussed in chapter five of his interesting book.

Neuritis and organic spinal diseases occupy the next chapter, and organic cerebral diseases, while functional diseases, or diseases of which the function is not known, under which the author includes epilepsy, chorea; tetany; paralysis agitans; writer's cramp; migraine; neuralgia; hysteria; trance; catalepsy; hypnotism; neurasthenia, concludes the instructive and masterly elementary treatise.

The illustrations best show the scope of the book, and the author's intelligent grasp of his subject, and of the essentials to its comprehension by the student. It is in no sense a book for the neurological *savant*, but as an instructor of the student it has not its equal in the English language. We here give a list of the author's illustrations:

Transverse sections of spinal cord, showing the shapes of the gray matter at different levels; Diagram to illustrate the chief connections of the anterior and posterior nerve-roots; Diagram of a reflex arc; Diagrammatic sections of spinal cord to show the tracts in the white matter, and grouping of the cells in the gray matter; Transverse section through lower part of decussation of the pyramids; Transverse section through upper part of decussation of the pyramids; Transverse section of medulla, a little below the calamus scriptorius; Ditto, at lower part of fourth ventricle; Diagrammatic sections through medulla, pons, and crura; Diagram to show nerve-nuclei in fourth ventricle, dorsal aspect (after Erb); Ditto, lateral aspect (after Erb); Base of brain (from Heath's Anatomy); Transverse section of medulla, just below pons; Transverse section of pons through eminentia teres; Ditto, through origin of fifth nerve (from preparation by Dr. Tooth); Ditto, at level of inferior corpora quadrigemina; Transverse section through crura, between superior and inferior corpora quadrigemina (from preparation by Dr. Tooth); Ditto, at level of superior corpora quadrigemina (from preparation by Dr. Tooth); Superficial origins of cranial nerves (from Quain's "Anatomy"); Diagram to show connections of the cerebellum; Diagram of external surface of cerebral hemisphere; Ditto, upper surface; Ditto, mesial surface; Ditto, lower surface;

Diagram of motor and sensory centers of cortex cerebri, external surface; Ditto, mesial surface; Horizontal section, diagrammatic, through cerebral hemispheres; Transverse vertical sections, diagrammatic, through cerebral hemispheres; Distribution of arteries on surface of cerebral hemispheres, external aspect; Ditto, mesial aspect; Secondary degeneration of pyramidal tracts; Secondary ascending degeneration in postero-median columns; Secondary degeneration, ascending and descending, after transverse myelitis; Diagram to show the general arrangement of the motor tract, and the effect of lesions at various points; Diagram to show axes of rotation produced by the ocular muscles (modified from Bristowe); Diagram to show the lines of movement produced by the ocular muscles (after Bristowe); Diagram to illustrate squint from paralysis of left external rectus; Diagram to illustrate the mechanism of conjugate lateral movements of the eyes; Healthy optic disc (from Nettleship, after Jäger); Severe optic neuritis (from Nettleship, after Hughlings Jackson); Simple atrophy of disc (from Nettleship, after Wecker); Atrophy of disc from spinal disease (from Nettleship, after Wecker); Atrophy of disc after papillitis (Nettleship); Field of vision for white and colors (from Ross, after Gowers); Diagram to illustrate the distribution of fibers from the occipital lobes to the lateral halves of the retinae; Diagram to illustrate the concentration of the current under the point of application of the smaller electrode; Diagram of the cutaneous nerve-supply of the face and head (after Flower); Complete paralysis of left vocal cord (after Ziemmsen); Complete paralysis of both vocal cords (after Ziemmsen); Bilateral paralysis of posterior crico-arytenoids (after Ziemmsen); Bilateral paralysis of internal thyro-arytenoids (after Ziemmsen); Paralysis of right serratus magnus (from Duchenne); Incomplete paralysis of the interossei (after Duchenne); Paralysis and wasting of intrinsic muscles of hand (main engriffe) (after Duchenne); Atrophy of thenar muscles (after Duchenne); Diagram of cutaneous nerve-supply of upper limb (after Flower); Diagram of cutaneous nerve-supply of lower limb (after Flower); Tabes dorsalis (sections of cord in); Postero-lateral sclerosis (sections of cord in); Disseminated sclerosis (sections of cord in); Maps of motor points (after Erb and De Watteville).

We think we may safely say without fear of successful contradiction from the most critical Master in Neurology, that the little book is the most numerous and appropriately illustrated of any manual for the medical student of its size in any language. The text is clear, concise and generally anatomically, physiologically and clinically correct. After having said thus much, and if space permitted we might say more, it is but natural that we should commend it to the student and practitioner, which we most cordially do.

DARWIN, AND AFTER DARWIN, an Exposition of the Darwinian Theory, and a discussion of Post-Darwinian Questions. By George John Romanes, M.A., LL.D., F.R.S., Chicago. The Open Court Publishing Company, 1892.

Several years ago Lord Rosebery founded, in the University of Edinburgh, a lectureship on "The Philosophy of Natural History,"

and the author was invited by the Senatus to deliver the lectures. This invitation he accepted, and subsequently constituted the material of his lectures and the foundation of another course, which was given in the Royal Institution, under the title "Before and After Darwin." The lectures for 1888 were devoted to the history of biology from the earliest recorded times till the publication of the "Origin of Species" in 1859; the lectures for 1889 dealt with the theory of organic evolution up to the date of Mr. Darwin's death, in 1882; while those of the third year discussed the further developments of this theory from that date till the close of the course in 1890.

It is from these two sources that the present treatise has grown. The author has thought it desirable to publish the whole in the form of three separate works. Of these the first—or that which deals with the purely historical side of biological science, the author thinks may be postponed for an indefinite time. The second is the one which is now brought out, and which, as its sub-title signifies, is devoted to the general theory of organic evolution as this was left by the stupendous labors of Darwin. As soon as the translations shall have been completed, the third portion the author promises in the Autumn season, under the sub-title, "Post-Darwinian Questions."

The present volume is thus intended to be merely a systematic exposition of what may be termed the Darwinism of Darwin, and as on this account it is likely to prove of more service to general readers than to professed naturalists, the author has been careful to avoid assuming even the most elementary knowledge of natural science on the part of those to whom the exposition is addressed.

This book will prove exceedingly interesting as a vindication of the main facts of the Darwinian theory, and will be read with interest by the lay and clinical reader as coming from an unprejudiced theological source of criticism.

DISEASES OF THE NERVOUS SYSTEM. By Jerome K. Bauduy, M.D., LL.D., Professor of Diseases of the Mind and Nervous System, and of Medical Jurisprudence, Missouri Medical College, St. Louis; Late Physician in Chief to St. Vincent's Institution for the Insane. Second Edition. Philadelphia: J. B. Lippincott Company, 1892.

"This volume of interesting lectures has a somewhat misleading title, as it is not a manual or treatise on diseases of the nervous system, but a collection of lectures on a few of the most important of these diseases and on some types of insanity. The first edition of the work was published sixteen years ago, and it has been practically out of print for many years; but in the present edition the author has endeavored to bring it up to the times. It is a monograph rather than a treatise, and shows a large amount of research and consultation of authorities, who are freely quoted in almost every chapter. It will probably be found more useful to the student and general practitioner than to the specialist in neurology and psychiatry. Among new matter of value much is taken from Charcot's most recent clinical and pathological researches, as, from those upon cerebral softenings, and

conceptions, and upon neo-memorabilia of the dura mater. The author's style is usually clear, simple, and forcible. He adopts Maudsley's classification of insanity; and it is a fair criticism on the work in general that he shows too much tendency to adopt and quote from the views of others. Among the most interesting chapters are those which deal with medico-legal considerations. He favors the adjudication of cases by a commission of medical experts. While this volume cannot take the place of works on nervous diseases like those of Ross and Gowers, or on insanity like those of Spitzka, Hammond and Bevan Lewis, it will be found useful to physicians and students for reference and consultation."

The above, from the *International Magazine*, is so fair an estimate of this book that we transcribed it with our editorial indorsement. The author is versatile and fluent of speech and wields a facile pen. He has not however given himself scope enough in the subjects treated, thus compelling the student to seek elsewhere for supplementary knowledge, which the author promises in a forthcoming second volume. We think the author has made a mistake in presenting the present less complete work than the first, as a second and revised edition. It would have been better had the book appeared in two volumes, with all the subjects promised fully presented. There are no illustrations. The author has devoted much space to the subject of cerebral hyperæmia, anæmia, etc., yet gives no cuts showing the perivascular spaces, the cerebral circulation or the neural mechanisms of arteriole control, which could thus be elucidated and made easier to students for whom the work is designed. This is a defect in the book in view of these intricate subjects treated and the facility with which they might have been elucidated by appropriate anatomical illustration.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES; a Yearly Report of the Progress of the General Sanitary Sciences throughout the World. Edited by Charles E. Sajous, M. D., and Seventy Associate-Editors, assisted by over two hundred Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engravings and Maps. Volume I., 1892. The F. A. Davis Company, Publishers, Philadelphia, New York, Chicago and London. Australian Agency: Melbourne, Victoria.

Five more volumes of this valuable reference series are on our review table.

This Annual continues to maintain its established reputation for the utility and scientific accuracy of the papers selected. The topics discussed within its covers are all judiciously chosen. Volume *second* of the present series presents valuable material from expert sources of experience in the brain, spinal cord, peripheral nervous diseases, mental diseases, blood, spleen, uterus, menstruation, ovaries, tubes, vagina, external genitals, diseases of pregnancy, obstetrics, puerperal diseases, diseases of the new-born, infancy, childhood, growth, age and a reference. Volume *four*, among other subjects of interest to the readers of the *ALIENIST AND NEUROLOGIST*, contains a fair presentation of the subjects of inebriety, morphinism and legal medicine. Volume *five*,

experimental therapeutics and electro-therapeutics, anatomy, physiology, etc. Volume *three*, is chiefly devoted to surgery, including an able contribution on the surgery of the brain, spinal cord and nerves, by John H. Packard, A. M., M. D., while volume *one* presents the fevers, diseases of the intestinal tract, viscera, peritoneum, diabetes, rheumatism, gout, etc.,—the whole set making a valuable, practical library reference series for handy use of most of the subjects interesting to the advanced and advancing medical practitioner of this forward-moving age.

A NEW MEDICAL DICTIONARY, Including all the Words and Phrases Generally used in Medicine, with their Proper Pronunciation and Definitions. Based on Recent Medical Literature. By George M. Gould, B. A., M. D., Ophthalmic Surgeon to the Philadelphia Hospital and Clinical Chief Ophthalmological Department, German Hospital, Philadelphia; with Elaborate Tables of the Bacilli, Micrococci, Leucomaines, Ptomaines, etc., of the Arteries, Ganglia, Muscles, Nerves and Plexuses; of Weights and Measures, Thermometers, etc.; and Appendices containing Classified Tables with Analyses, of the Waters of the Mineral Springs of the United States, and Tables of Vital Statistics. P. Blakiston, Son & Co., Pubs., 1012 Walnut Street, Philadelphia.

This is a compact and correct class-room dictionary of medical words and phrases, small enough to be conveniently portable by the student while going from one lecture to another. The table of prefixes and suffixes used in medical terms, which occupies the introductory pages is an exceedingly valuable part of the book to the younger student. The definitions are up to date, and most of the newer terms now in common use by medical writers of the day, may be found in this dictionary.

Results in Cases of Hip-Joint Disease Treated by the Portable Traction Splint Without Immobilization, except during the Inflammatory Stage of the Disease. By Lewis A. Sayre, M. D., Professor of Orthopedic Surgery in the Bellevue Hospital Medical College.

Personal Experience of a Physician, with An Appeal to the Medical and Clerical Professions; and An Appendix, a Review of "Christ and the Temperance Question" in the *Christian Union*. By John Ellis, M. D., author of the "Avoidable Causes of Disease," etc., etc.

Papers on the Epidemic of Influenza from 1889 to 1892. By Roland G. Curtin, A. M., M. D., Ph. D., Lecturer on Physical Diagnosis, University of Pennsylvania, etc., etc.; and Edward W. Watson, M. D., Member of American Climatological Association, etc.

De la Suractivité Intellectuelle sans délire ni Démence dans la période Prodromique de la Paralyse Générale Progressive. Par M. le Dr. Victor Parant, Directeur-médecin de la Maison de santé de Toulouse.

The Public Health and Some of the Relative Inconsistencies of the National Government.—A Plea for the Establishment of a National Health Service. By A. Walter Suiter, M. D., Herkimer, N. Y.

Note Sul Tatuaggio Osceno Nei Delinquenti (*con una tavola*).
Dott. Gurrieri e G. B. Moraglia. Estratto dall'Archivio di Psichiatria,
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ORIGINAL CONTRIBUTIONS.

**CLINICAL STUDY ON DOUBLE ATHE-
TOSIS.**

By Dr. DIMITRI IVAN MICHAÏLOWSKI.

I.—ATHETOSICAL MOVEMENTS.

THE beginning of double athetosis is generally slow, progressive, insidious, and very frequently cannot be connected with any apparent cause; yet, although rarely, the disease is sometimes preceded by convulsive attacks more or less repeated, according to personal observation.

This is precisely, in relying upon the initial convulsions accompanied by fever and delirium, how Massalongo assimilates the creative course of the double congenital athetosis of the polioencephalitis of Strümpell.

From the moment of birth, and specially during the first part of childhood, there is seen in the little athetosical patient, in a short time, poor development, great difficulty in speech—equivalent to none at all, and a drawing of the stiffened inferior members, closely resembling Little's disease. To all these symptoms soon are added the athetosical movements of the face and the four members. But the first manifestations of double athetosis are,

sometimes the motor troubles and sometimes the intellectual ones, which offer themselves to the attention of the observer.

It will be observed that some forms of the beginning of the disease, are yet more exceptional. Thus, in the case of Greenless, sudden and general paralysis marks the beginning of the disease. In the case of Hughes, patient surviving after an accident on the railway, and in the case of Ollivier, from the consequence of a chorea of Sydenham. Massalongo says, and with reason, that it is exceedingly rare to find double athetosis generalized at the first outset. It settles itself, generally, slowly, and invades progressively, the diverse regions of the face, the superior and inferior members and the trunk, commencing with one or the other. Rarely is the mode of beginning, in which the movements, limited at first to one side of the body, will after a time, spread to the other side. Two fine examples of slow and progressive development are furnished us by Greidenberg, Blocq and Bliss. Greidenberg's patient was attacked on the right arm when eight years old, and on the left at fourteen. In the case of Blocq and Bliss, gathered in the service of our master professor, Charcot, the movements, limited at first to the left arm (when four years), passing to the right arm at the same age, more slowly at seven, will not attack the inferior members at fifteen years; at last, articulation of words becomes impossible towards the age of thirty.

1. *Description of Movements.*—Face: The muscles more often attacked are the risorii, the zygomatici, the orbicular of the lips, the buccinators, the transverse of the nose, the elevators of the upper lip and of the nose; after that the *occipito-frontalis*, the movement of the eyebrows and the orbicular muscles of the eyelids. It is rarely that the athetosis lays siege to only one side of the face, as that in the cases of Barrs and Leube. In the case of Charcot and Huet, Kurella, the athetosical movements were limited to the lower part of the face.

Generally in most cases the muscles of the lower

facial region play the most frequent and violent parts. One of Massalongo's patients presented the same motions of the ears.

We find the movements of the face well marked almost in all the observations made and we share the opinion of Massalongo, who believes they are true. Yet, in the cases of Dreschfeld, Oulmont, Warner, etc., the authors assert very frankly that there does not exist in their patients any trace of anomaly of the facial masque. There are some writers who are silent in this regard. Clay-Shaw, who has attentively observed and studied the facial convulsions, says:

The movements of the face are truly extraordinary and give birth to a variety of expressions; the most frequent being that of a broad grin, due to a spasm of the retractive angles of the mouth, the risorii and zygomatici muscles, of the smaller fibers of the orbicular of the eyelids, which slowly raise the upper lids till the forehead becomes wrinkled.

* * * Then to this expression succeeds a relative calm, produced by the relapsing of the muscles; but the impression of their indentation is confirmed by the wrinkles and gives the appearance of old age. There is also produced an expression about the eyes of terror and grief; only there does not seem to exist corresponding emotions to those which appear to denote the play of certain muscular groups, because the movements are very fleeting. * * * In many cases of paralysis the patients have an expression of sadness, when in reality they do not respond to any real sentiment.

Oulmont thus depicts the movements of the face:

A fact rare in the half-athetosis, and which appears to be much more frequent in the double athetosis, is the participation of the face with the involuntary movements. There are some unconnected contractions independent of all the muscles of the face, resorial, zygomatical, orbicular of the lips or the eyelids, occipito-frontal, etc. * * * Thence, some grimaces, which represent all the varieties of expressive sentiments. In one patient it will be laughter, in another discouragement, or better still, admiration and curiosity.

Indeed when we look at the photographs of the patients of Clay-Shaw, Massalongo, Greidenberg, Hughes, Audry, etc., the expressions are striking.

The face is presented to us under the influence of grimaces, or provoked feelings, with expressions varied and

whimsical. The most frequent are those with a broad grin; but it is not rare to see grief, despondency, admiration, sadness and disdain—even curiosity shows itself under these features.

The patient has no control over the movements and expressions, nor can he give a reason for his illogical and irregular manners. But amongst all the odd and unexpected movements of the physiognomy, out of all relation with the idea which momentarily enters the mind of the patient, still he is able to assume an expression nearly resembling a thought or an idea, thus in a certain measure making his feelings known at times when articulation is, or nearly is, impossible.

Clay-Shaw and Massalongo have noticed that the face often shows wrinkles on a level with the muscular regions, agitated by the abnormal movements, and incessantly repeated. Below will be seen an observation, typical of this relation :

OBSERVATION 1.—(*Personal, unpublished.*) *Double athetosis dating from infancy, occupying the four extremities.*

E. C. —, 48 years, conductor of cattle, entered the Salpêtrière Hospital, October 10th, 1890, under the care of Prof. Charcot.

Hereditary antecedents.—Father died when 36 years old, of typhoid fever with cerebral manifestations. Mother 76 years old, still living and never had any nervous trouble. Two brothers in good health and a sister equally so.

On the paternal side.—His father was a strange boy, neither his mother nor himself knowing the antecedents.

On the maternal side were two uncles, five aunts, none of whom were afflicted with nervous troubles. One of these aunts died at Salpêtrière, where she was admitted to the asylum for the aged.

Personal antecedents.—The patient was born up to time, the pregnancy being good, and was never distressed with convulsions, neither with chorea nor *coqueluche*.

He walked at twelve months, and walked well, appearing intelligent, speaking also well, and learning equally so. The mother when questioned, said he was like the rest of the children, showing nothing abnormal in his development.

When he was seven years old, the mother noticed that the child had become sulky, capricious and whimsical. About the same time, without any known cause, without convulsions (the mother does not remember even that he had fever), the patient began, step by step, making grimaces and movements, adding to the difficulty of speech, becoming stubborn. This state did not change for better or worse, though the patient was obliged to give up his occupations. The physician at this period made him put his books aside, all heavy manual labor, and instead gave him work with light, easy instruments, to divert his mind. For treatment he directed cold baths, but without results. About the end of this time, the movements of the members were increased to such a point that the patient could not hold anything in his hands, following upon which he was then put in charge of cattle for an occupation.

Actual state.—The patient is more inclined to be large than small, is robust, strong enough, and inclined to obesity. No cranial asymmetry, head well formed, palate normal, dentition good, and intelligence preserved.

Superior members.—When the patient is seated without stirring, and then told to rest quietly on his chair, it seems to be an impossibility, as his entire body is then animated by a number of little movements. The patient sits well, with his hands resting on his knees, but the fingers more specially move involuntarily. They are not bent, have no permanent deformation, are not out of joint, nor is there any subluxation of the phalanges, but the trouble is in the extension, the fingers opening and closing alternatively, and showing activity enough when playing the piano.

In the wrist of the patient there is very little movement, but from time to time there is noticed shocks in fore-arm and arm. The shoulders raise and lower themselves, and the trunk performs the torsion movements either to the right or left. The head, which is close between the shoulders, turns from time to time also.

Inferior members.—In these members is seen the same phenomena as in the superior. Whenever the patient's shoes were put on, it was observed that the toes executed movements. The extension is more frequently seen in the great toe, the flexion in the four others; they bend themselves sometimes in all their articulations, sometimes unconnectedly in their articulations with the metatarsal, or even with the first or second phalanx. The same slowness, the same exaggeration of the movements that are in the fingers, the one in relation to the other, are manifested specially between the great toe and the four smaller ones, but showing less rapidity in the succession of their movements. These persist a greater or less time, especially during walking, in which the great toes bend towards the ground at a right-angle, thus considerably impeding his progress. As the wrist participates in the movements of the fingers, just so the tarsal and the *tibio-tarsal* articulations also accompany the movements of the great toes. This is sometimes a leading about very slowly of the end of the foot, produced by the play of the *medio-tarsal* articulation an *inclatism*, changeable on the external or internal edge.

Few movements at the thigh or legs.—Face: The first thing with which one is struck in regarding a patient is his expression of countenance. If closely observed there will be seen two expressions, which succeed and replace each other. Sometimes it is astonishment and stupefaction, and then again is seen anxiety with suffering. The face is creased with deep lines, but the left side is more indented than the right.

Mouth *pleurade*, always open, ridges vaso-labian, turned

up and deeply lined. The flattened nose, with the sides raised as one who makes an effort to retain the expiration and nostrils dilated.

Forehead narrow, shifting, full of wrinkles, the muscles of the long-haired chin, with those of the forehead, often contracting themselves, and thus augmenting the expression of anxiety, specially when the eyebrows are raised ; some movements of the face accentuate the general expression, especially about the mouth. No movements of the eyelids, but for the moment a sort of arrest of movements, very short of duration, from five to six seconds.

Speech.—In commencing to talk, immediately there is seen a series of grimaces, which produce the effect of an enormous effort to open the mouth. The furrows become more marked, the wrinkles more pronounced, the patient makes a movement of the mouth, a movement which spreads all over the body, movements of the shoulders, of the fore-arm, the fingers moving themselves quicker and with more strength, and the inferior members likewise, and after this general effort, there is obtained the response alone.

It seems as if the patient made a great effort to draw out his speech. Not jerked out, but mixed up as it were from the cause of the stiffening of the involuntary movements of the tongue, from poor articulation, muffled sound, because all the muscles of the mouth, specially those which furnish sound, are tightened. This is the type of speech of an individual who has all the organs that go towards framing speech, and is prevented from so doing, from tension of his muscles.

He draws out the language from his mouth, but its accomplishment involves an effort of the entire body. Only in the mouth the movements are more striking and diverse, the patient twisting it sometimes to the right, sometimes to the left, up to the palate, and then drawing it down again, and into various other grotesque shapes.

The patient has all the time (an inspiration retained and expelled with force), which holds that the muscles of the glottis are contracted, or simply a harsh movement of inspiration and expiration. 1. This increases at each intentional movement, at each effort. 2. Whenever the patient is simply emotional.

Upright position.—In this position there are the same movements as those in sitting, except with more amplitude; flexion and extension, adduction and abduction of the fingers, and the same phenomena of the feet, which bend from time to time under the knees.

Walking.—Most singularly, he separates his arms a little, stretches them forward, the knees slowly bending downward toward his feet. In stepping he lifts his feet well, but only succeeds, in taking a few short hurried steps, which is due to the fact that his thighs are stiffened and bend under the pelvis, the legs on the contrary being very flexible. All this time the great toes never cease moving.

The patient walks much more easily when in undress, and when barefooted, and appearing to be quite indifferent that he is observed in this condition.

Penmanship.—When he starts to write (he knows how to sign his name), he at first stiffens himself, makes the strangest and most frightful faces, the usual movements becoming more intensified, the body twisting itself into various attitudes, the arms moving backward and forward, the athetosical movements of the fingers are more marked, the face contracts, his mouth also, as if he were about to speak, but all this time never letting fall the pen. In the intentional movements, as for instance, when the patient carries some object to his mouth, the arm is animated by little involuntary movements. He quickly seizes the thing, the fingers stretched but not loosened, and the arm assuming the form of a hook. It appears to be easy for him to follow the direction to his mouth, but the movements are so difficult because of the stiffening of the muscles; as he advances toward the object,

his head falls, and all the movements of his body increase with the effort to reach the place. The movements of his arms are slow, as if he were trying to conquer the resistance. The head is stiff and drawn down close between the shoulders. Neck, large and strong, and stiff, but the *sterno-cleido-mastoidei* muscles are hypertrophied. Thorax is well formed. None of the members or muscles are atrophied or hypertrophied, except the ones mentioned above. There is no scoliosis, but when the patients attempts to walk, there is observed a lighter degree of curvature of the loins, he walking as a pregnant woman. His eyes do not remain closed at will, owing to the involuntary movements of the opening and shutting of the eyelids. In 1890, Dr. Parinaud examined his eyes, but found no ocular troubles, no shrinking of the visual compass. In nystagmus, all the movements of the balls well preserved but unsteady.

Ears large and well formed. General sensibility well preserved. No topical diseases, and reflexes of the wrists normal. Existing rotular reflexes difficult to produce, owing to stiffening, yet not seeming to be exaggerated. Temperature normal.

All the functions act well, lungs, heart, kidneys and stomach are normal, and the sexual appetite is preserved.

Neither albumin nor sugar to be found in urine.

At times, when the face is distorted by grimaces, the tongue remains continually in the mouth, rolling up to roof and falling backward, though sometimes it does not move to any great extent.

The involuntary movement, although less manifested in a state of repose, will, even when the face is completely tranquil, assume an expression of great intensity, if, for instance, the patient is commanded to put out his tongue, or to open his mouth. Generally the patient succeeds in drawing the tongue out from the cavity of the mouth, but with pain, and agitating it from side to side, as if it were an impossibility for it to rest in one place.

“When the movements are very marked, tongue will be thrust in and out of the mouth, as a turtle protrudes and draws in his head under his shell.”

The foregoing comparison answers to a description of one of Massalongo's patients, who always, in offering resistance, pushed out his hands.

In some cases, the movements of the mouth from a violent and frequent siege, are cut short by hypertrophy. The description of Blocq and Bliss is typical in this regard. As he continues it will be noticed that this hypertrophy is never observed in chronic chorea.

The movements vary considerably in rapidity and intensity. Kurella, for an example, counted eighteen movements backwards and forwards, and Massalongo but four.

Superior members.—The appearance of the patient afflicted with double athetosis is very striking, the larger extremities being more seriously attacked than the smaller ones, though the hands are always troubled.

All the movements are nearly always more pronounced on one side of the body. The superior members are touched early, often the same time as the face, rarely before. At the beginning, the movements commence generally at the fingers, the hands and the wrist, less frequently, at the root of the member. In Hammond's hemiathetosis, the movements of the fingers are so incessant as to render it impossible to keep them in any one position.

At first the movements seem very complicated, but they can be defined easily enough if attentively observed. Many authors thus characterize them as being “grotesque, irregular, involuntary, exaggerated and powerful in expression, which they present as something spasmodic and slow, coming far back from peristaltism of the muscles of organic life” (Gairdner).

Clay-Shaw says, “Changeable and undulating.”

Gairdner further says, “At last is known the classical comparison, which is made between athetosical movements

of the fingers and those of the feelers of the sea-anemone."

The patients bend and extend their fingers in spite of themselves, stretching them out and bringing one under the other, all the movements being possible, the most frequent extending to all the phalangeal articulations, they laying special siege to the articulation of the metacarpus along with the fingers. The most striking movements are the alternative flexion and extension, without being veritably a succession of motions, result in the movements of opening and shutting the hands. Thus is explained the fact that an *athetosique* cannot hold an object in his hand without letting it fall. To these movements of flexion and extension are added those of abduction and adduction, which goes to show that when the hand is open the fingers are wide apart, but are brought together again as soon as the hand is shut.

At the third phalangeal articulation the movements are less pronounced than at the first two. As for abduction, it generally responds to two types—where many of the fingers are uniformly spread out like the foot of a goose and where the thumb is alone separated. The other subjects are divided into two groups: in one, of the index and medius; in the other, the annular and the little finger, which are in abduction, forced into relation with each other. In this series of contractions the fingers play an independent part. They are often agitated by a united movement, yet each finger stirring separately. Often also in these isolated contractions the fingers produce that sort of antagonism which has been remarked relative to the abduction between the fingers innervated by the medius and those which innervate the cubital. The index and the medius on the one hand, the annular and the little finger on the other, form two groups, where sympathetically they move together, and where in the same sense they separate from each other.

The oscillations of the wrist are of the same character as those of the fingers. It can move itself in all the ways

of flexion, extension, alternative inclination in the radial and cubital borders, but giving to the last the preference. Slowly as those of the fingers, but less extensive, the movements pass, without regularity, the hand, by the most diverse positions. Aside from these classical movements (if they can be called such) come a throng of others—Clay-Shaw's movements of aptation, attitude of the thumb, simulating a rhythmic motion, according to Parkinson, Hunt, Audry.

If a thorough analysis is made of these movements the following results will be obtained: That the *interossei*, dorsal and palmar muscles, in all cases, are attacked with a variable intensity. Afterwards come the flexors and extensors of the fingers (long and short), abductors of the thumb, the cubital muscles (anterior and posterior), and the two *radii*.

The fore-arm and the arms themselves, sometimes, even the root of the superior member, suffer from involuntary shocks, even when in a state of absolute repose.

Upon a level with these movements Clay-Shaw has signalized those of extension, flexion, of pronation and of supination. One of Massalongo's patients had his arms almost brought together—almost separated from the thorax. In one of Kurella's patients, whose fore-arm, placed at first strongly in abduction, "describes a movement of rotation, recalling clearly one which is made in trying to shut a lock with a rusty spring."

Inferior members—In nine-tenths of the cases the inferior members are usually the seat of athetosical movements. Yet there are a certain number of observations, where their absence has been duly stated. Like the superior members, the movements are more pronounced nearer the extremities—at the toes and the feet.

Extension and flexion at the toes dominate as long as abduction is rare or less marked. Extension is most frequent at the big toes, flexion at the four others, which bend in all their articulations, in their articulation with the metatarsal, and even in that with the first or second pha-

langes. In the toes is the same correspondence of movements as in the fingers, of slowness, intensity and of independence.

As the wrist sometimes participates with the movements of the fingers, so the articulation of the tibio-tarsal also accompanies certain cases of the toes.

There is sometimes a circumduction very slowly, of the point of the foot, produced by the play of the medio-tarsal articulation, a variable inclination in the external or internal border, with predominance of the position *en varus*. Sometimes the flexion or extension of the foot, about the leg, with notable excess of extension. These movements, as those of the toes, are not ordinarily a true picture of those of the hand, or rather, both hands; they are less violent, much weaker, but are strongly exaggerated when the patient is ordered to execute a movement of some other parts of the body, as for instance, lifting the arm.

Some authors have told of involuntary movements, which bind the limbs under the thighs, the thighs under the pelvis, and which are of great frequency and of remarkable intensity. These movements are sometimes a slow pace of rotation. Further on we will speak of the gait in double athetosis.

Neck and Trunk.—The head oscillates slowly on the neck backward and forward, or sideways; oftentimes with movements of flexion and extension and laterally, which combine, besides, to form diverse features. Clay-Shaw says that the movements of the muscles of the head and neck are very marked and resemble in their characteristics those of the fore-arm and the fingers. They consist in an easy projection of the head in front and above on one side, and with the retractions below on the other side.

The shrugging of the shoulders is produced by spasmodic contraction of the trapezii.

From some facts it will be observed that athetosis extends to the trunk. We find in Kurella's and Adersen's observations that the movements can attain to any

extreme degree of intensity, violent contractions twisting the trunk in every position and causing ecchymosis in spite of most comfortable bed arrangements. For a seated position is noticed anterior, posterior movements and circumduction of the trunk (Massalongo).

One of our patients showed some trouble of deglutition and respiration, which we did not observe in all other observations. This consisted principally in the fact that the inspiration, from time to time, and mainly in its efforts, made a wheezy and hissing sound, from spasmodic contractions of the muscles of the lips and mouth. From the side of deglutition there comes every now and then a trouble in swallowing, caused by an involuntary contraction of the muscles, which contribute to this function. This is not the place, however, to properly speak of the troubles adherent to this branch of the disease, but only to note that the simple consequence of the involuntary movements are by a mechanism, analogous to that which causes the patient to let fall a plate or glass which he holds in his hands.

2.—GENERAL CHARACTERISTICS OF ATHETOSICAL MOVEMENTS.

Intensity.—These movements do not always maintain the same degree of intensity, certain conditions augmenting its frequency and extensions; others, on the contrary producing diminution, rarely their complete cessation.

When the patients are in a state of repose, the movements lessen in frequency and intensity, but never entirely disappearing while they are awake.

Rapidity.—These moving disorders can be scientifically recorded by the graphic method or instantaneous photography. Some authors have made a special study of athetosical movements. Warner, of England, proposed in 1883, a *motor gauntlet*, for inscribing each articulation of the hands. In Germany, Kurella constructed a chronometer for studying the movements of

one of his patients, which numbered thirty-three in one minute, of raising and lowering the jaw.

But it is hardly worth while to attach much importance to the obtained results, as this rapidity varies considerably. The moral impressions, the emotions which augment the intensity of these convulsions, do not always increase the swiftness of the movements, and in Kurella's case, the grimaces became more frightful, but not more frequent.

An important fact, worthy of note, is that the athetosomal movements are *not rhythmical*, as was seen in the Sydenham's chorea, or in the chorea reports. This is a characteristic common with these two diseases, which separate them clearly from other characterized affections, or from movements involuntarily rhythmical (as for example, hysterical chorea).

Influence of the will, of the emotions, and the voluntary movements.—The cases of Eulenberg and Lange are the only ones where it is stated that the intensity of athetosomal movements can be diminished by the will. The moral impressions, on the contrary, increases them often in the most incredible proportions. Kurella compares the face of an *athetosique* to the face of an old comedian. The emotions, the efforts in the patient, by which the intellectual faculties rest, provoke an exaggeration of athetosomal movements. Thus, for example, a patient on entering the hall, will seem quite tranquil, when, upon perceiving he is noticed, will become much agitated. The voluntary movements equally produces a notable augmentation in athetosomal convulsions. Thus in the act of rising from the chair, the patient will bend his trunk forward, forcibly extend his arms in the same direction, the thighs drawn together, the knees seem glued, the legs separate, the muscles of the face are convulsed, and altogether there is a considerable effort.

There are not many exceptional observations where it is seen that the movements do not always entirely disappear during sleep. Massalongo has noted in his patient

movements in the left leg while sleeping. Kurella declares, that the movements in his patient were so intense that often in slumber he tumbled from the bed.

As for the influence of the temperature on the motions, Kurella claims that in his patient, the movements are more pronounced in summer, diminish in autumn, and still less augmented in winter. Adersen remarked that the movements were intensified with the elevation of temperature.

Neither menstruation, febrile troubles, nor others, appear to modify the movements, in deciding the facts of cases. For my part, I watched for a year and a half, three of my patients, and in none could I observe any influence of the temperature on the movements.

Spasm Rigidity.—One of the most characteristic signs of double athetosis, is the state of rigidity of the members, which are attached with the movements; a state so real and important, that Gowers has claimed it as a just title, a necessary element to the disease.

This quality, this spasmodic sign is signalized in nearly all observations, and particularly in those of Charcot, Huet and Déjerine. "Here is noticed a little rigidity in the arms and fore-arms, there a spasm passing along the tricep."

In repose, athetosis and the spasm diminish, but increase as soon as the patient attempts to stand, or makes any attempt whatsoever to rise. Furthermore, Oulmont, Mitchell, Bourneville and Pilliet, have verified the fact, that true choreiform motions, have not in reality the exaggeration that the athetosical have, where the patient is willing to act, or for example, where he is possessed with an idea.

Owing to Bourneville and Pilliet, afterwards to Huet, the fact is established, that the movements are more pronounced in the first half of the time necessary to the accomplishment of an act.

These spasms increase with efforts, with movements, and as Huet so well remarks, double athetosis distin-

guishes itself from chronic chorea, specially by *the lack of nimbleness in the voluntary movements, and the existence of a stiffening and rigidity of the part affected*. Instead of being transitory, these phenomena appear to be permanent. They become transformed into contractions, and the superior members become fixed, at the time of the disappearance of athetosis.

On the movements, the spasms and the contractions, depend the attitude of the members; in the lighter forms, that is to say, in the cases where the movements are less pronounced, there is nothing particular to note. On the contrary, when the movements and spasms are violent, the patients employ certain ways to quiet their members, in order to appear less striking and ridiculous.

Thus one of Barrs' patients placed his rebellious hand between his knees, or twisted it beneath the folds of his garment. One of my own patients did likewise.

Sometimes the superior members persistently remain in the same attitudes for a long time, when the contractions are extreme. The most common type is the flexion of the fore-arm.

Reflexes.—The rigidity which is found in some cases renders the examination of the tendonous reflexes very difficult. Massalongo affirms that when there are contractions, the reflexes are very often exaggerated. Many authors declare that it is difficult to find the reflexes because of the drawing up of the muscles. One other peculiarity, very noted in some cases, and especially by Adersen, is that in seeking the reflexes and attempting to provoke them, one fixes the augmentation in the convulsions and athetosis. From my own account, as I have stated, in most of my patients, with contraction, the examination is very difficult; the phenomena of the feet does not exist, even with the exaggeration of the rotular reflexes. As for the cutaneous and pupillary reflexes, they do not offer any anomaly up to the present time.

3.—CONSEQUENCES OF THE MOVEMENTS.

The traits which distinguish the athetosomal movements, particularly those in spasms and rigidity, and the absence of rhythm, are not necessary to dwell upon, as they merely concern the simple movements or gestures incident to an ordinary life. We have mentioned before the influence of the voluntary movements on athetosomal convulsions; it is easily comprehended when we notice those of the convulsions on the actions or voluntary gestures. Generally the direction of the movement is more or less hindered, and the purpose foiled.

But if we direct our attention to some of the other voluntary movements, more complicated than that of carrying a glass or fork to the mouth, as for example, the movements necessary in writing, or in speech, it is easy to conceive that the athetosomal fits are modified. There are to this point of view two elements to consider; first, the athetosomal movement, and secondly, the additional traits of which we have spoken in the preceding paragraph.

We will now proceed to study the gait of an *athetosique*, which is so peculiar that it merits particular attention from a diagnostic's point of view. Afterwards we will treat of the penmanship and of speech, which are equally marked in our patients, but of a less characteristic form.

The general attitude of the patient as he starts to walk can be described thus; the knees bend, clinging close together, the thighs contract under the pelvis, and the legs separate; at the same time, the arms spasmodically cling to the side of his trunk, the fore-arms extended as if to maintain his equilibrium. All the while the fingers stiffen from the siege of the involuntary movements which we described before. The trunk, equally rigid, is strongly arched, and the shoulders thrown back, the neck jammed down between them.

Thus placed the patient starts out tossing his shoul-

ders like a ninny as much as is possible, in attempting to walk with his knees close together. Professor Charcot has very happily for this reason, compared the walk of a double athetosique to that of a cock-of-the-walk. In saying they walk *like ducks*, one cannot describe more graphically, or in mere words, their peculiar gait, in which the rigidity plays so important a part.

This rigidity renders walking difficult, and sometimes impossible, it in some cases being so that the patient cannot leave his bed or chair but for a short time; and that, so much more easily, from this trouble, properly said of walking, adding sometimes veritable articular deformations produced in time by the permanent contractions. We will return to this subject again.

The general characteristics of the double *athetosique's* walk, are those of spasmodic gait; so well described by Ollivier, d'Auger, Charcot and Erb.

It is this frequency, more or less, in this step of the disease, where it can be said in the beginning of the walk remaining possible, but every disease in its limit.

The pain can be attenuated, and also very light, though it cannot be said where the patient suffers when he feels he is observed. It is seen then that one of the feet has become rigid, for a moment, from a passing spasm, the heel raising itself, and the leg drawn along on the point of the toes.

By the side of this spasmodic walk, which can be considered typical, certain authors, and particularly Clay-Shaw, described the *tabetique* walk, Bourneville and Pilliet telling us of some cases of choreiform movements at the beginning of the walk, which apply without doubt to the augmentation of the athetosical convulsions occasioned by the disease. But above all, Kurella's patient is the most striking in all its relations, and presents in an extreme degree the exceptional troubles in walking.

"The patient walked strongly, but less willingly, falling

habitually after some steps, not being able to rise. He struggled then, on the ground, and if he again tried to walk, there was produced some excessively strange movements—whirling movements, which often threw him to the ground, unless he held to some object."

The troubles of walking take possession of the patient very early, and in a slow, progressive manner. Often susceptible to improvement, they continue meanwhile, in nearly all cases during life, attaining to such a degree in some cases that walking becomes definitely impossible.

One of our patients presented to an extreme the characteristics in walking of a double *athetosisque*. Below will be found notes on his cases:

Double athetosis dating from infancy, occupying the face and the extremities.—Rigidity of the inferior members.—Virginia H—, at the age of eleven, entered the Salpêtrière Hospital, Dec. 8th, 1890, under the care of Prof. Charcot.

Hereditary antecedents.—The father, a sober workman, 39 years old, in good health, though very nervous, flying into a passion very easily, had four brothers and one sister, all healthy, with no nervous diseases.

Paternal grandfather died when 66 years old, of pneumonia; grandmother died at 65, of what is not known. No nervous troubles in the family.

Mother, 33 years old, was nervous and passionate, but not attacked in the nerves. She had three brothers and one sister in good health.

Maternal grandmother, aged 60 years, always healthy, and grandfather equally so.

Our patient is the eldest daughter of five children; a brother died of convulsions at fourteen months, and another brother, seven years, is afflicted with Pott's disease.

One other brother and sister are healthy.

Personal antecedents.—While the mother was pregnant with her, nearly towards the fifth month, she tumbled

into the river. She bore to term, but the delivery was very painful, the child being born at the end of three days in an asphyxiated state, black in the face, and with the cord circulating the neck. It was only by the means of artificial respiration, practiced for two hours, that the midwife was able to bring the child to life. The mother never observed anything abnormal in the child until she was six months old, at which time, one evening the little one swooned, and remained unconscious for some minutes.

The following day she seemed only very tired; but since then has never been as bright as before.

At ten months the mother noticed that within the space of three days the child became rigid to the point of not being able to stir her limbs, eat or even to sit down.

When two and a half years old, she was attacked with convulsions, which lasted from nine in the morning until four in the afternoon, succeeded by another attack fourteen days later. Since then the spasms have returned every month, or every six weeks, but not lasting more than a few moments.

The attacks always come in the morning, the patient becoming white, trembling all over, with slight shocks, or movements commencing at the mouth. She frothed at the mouth, and formerly could not retain her urine. She never bit her tongue, but the attack was preceded by another one, consisting of quivering of that member, and of the lip.

From what her mother says, it was about this time that she noticed the existence of athetosical movements of the fingers on both hands alone.

When she was six years old, she could feel when the crisis was near, and would always start for her mother. About this time she had whooping-cough, which confined her to the bed for four days, but in no way either modified or complicated the previous trouble.

When nine, the convulsions ceased, and Virginia was

sent to the Sister's school, although she talked poorly, and in spite of everything, walked spasmodically "like a duck," so her mother said; but she continued at school for four months, because the Sisters thought her so backward in learning to read, but she could never write, owing to the movements in both hands.

The mother could not decide exactly at what moment the movements began in the feet.

Actual state.—Young girl, 11 years old, yet appearing more than 16, but not yet regulated. Body poorly proportioned, but head well formed. Palate normal, teeth well set, and intelligence preserved.

She is attacked with involuntary movements of the face, which are very striking when she attempts to eat or speak, but these variable movements in form and intensity, lay more special siege to the four extremities, which sleep alone can suspend.

The feelings of the patient, who is very emotional and passionate, are much excited.

In walking or speaking the patient exhibits all the movements of athetosis, lingering, sliding, same in extension and flexion, same in abduction and induration.

Superior members.—The patient is rigid, yet able to sit down, and in this position for a while, the arms are close to the trunk, the elbows bent, the hands together. This is her favorite position, because then the involuntary movements of the fingers and hands are reduced to their minimum. When the hands rest on the knees the fingers and wrists are troubled with lingering movements, entirely resembling those of hemiathetosis.

The fingers lock and unlock themselves continually, each finger separately passing from the position of flexion to that of extension, coming back to the first (tentacle pulp.) They never come nearer to complete extension except the thumb, which in this movement approaches close to subluxation; the whole hand is thrown back towards the cubital border.

The result of these movements, in character various

and strange, are infinite, and change every instant. Thus it is that the patient has often on the left side the wrist bent, all the fingers in flexion, whilst the right wrist and fingers are in extension or abduction, or yet adduction. The movements of the arms and elbows are not very extensive.

When an object is placed in the hand of the patient, a pen for example, she holds it very awkwardly, clutching it tightly between the fingers, but not letting it fall.

All the movements increase in amplitude in extraordinary proportions, and this augmentation of athetotical movements, is from the fact of the effort made by the patient, to arrest the movements of the fingers, which hold the pen, the price she pays in accomplishing her object.

The superior members are the seat of a general rigidity a little more accentuated on the right than on the left side, which renders the passive movements difficult, and in extended limits.

Inferior members.—The passive movements of all the segments of these members act with difficulty, owing to rigidity, which is still more marked here than in the superior members. The right side appears more stiffened than the left.

The involuntary movements are executed in the same way as those of the superior members. There is an incessant attempt at flexion and extension of the toes and adduction and abduction. Extension is more frequent in the great toes, bending themselves in all their articulation. There is the same slowness and intensity as in the fingers, the same independence in their movements. The thighs and legs are nearly tranquil.

Neck, face and trunk.—The head moves lightly from right to left, and *vice versa*, and sometimes up and down. The trunk also turns easily. The involuntary movements exist even when the face is in a state of repose, but when it is provoked by any emotion, or even when the patient feels that she is observed, it is seen that all the muscles enter into the movements, specially the zygnomatal,

orbicular, the resorior and little muscles of the chin; the muscles of the forehead and eyelids are more calm.

What is most striking about this patient is her expression of countenance, showing sometimes astonishment, stupidity, and again anxiety and suffering.

Walking.—In the act of rising from her chair, the patient bends her trunk forward, extends her arms in the same direction, the thighs draw in, the knees seem glued together, the legs are separated, and the muscles of the face convulsed with this evidently painful effort. The gait is very peculiar, the patient is crooked, saddle-backed, inverted, the legs are slightly bent under the thighs, they under the pelvis, the knees closely pressed together, even as the thighs, the feet *en varus équin*, the patient walks on the end of her foot as in the spasmodic type of walk of Ollivier, d'Angers and Charcot.

The two *sterno-cléido-mastoïdei* are somewhat hypertrophied.

Slight *scoliosis* on the left convexity.

No appreciable paralysis, and the extension of the intentional movements is limited owing to rigidity.

Rectular reflexes preserved, were exaggerated on the left and difficult to produce on the right from rigidity. No phenomena of the feet.

No pains, and general sensibilities preserved. No *nystagmus*, nor signs of Romberg. Vaso-motor troubles; the hands and feet are always cold and of a violet tinge.

In talking the patient is always much embarrassed by the stiffening of all the muscles which aid in articulation and phonation. Pronunciation of words is difficult, and speech is drawn out slowly, but possible.

The tongue is not hypertrophied, does not hang out of the mouth, but when it is forced open, it is seen that the tongue is painfully striving with little movements of less extension; but even when she tries to restrain it, it cannot be called normal; she makes a violent effort which provokes some intense involuntary movements in the muscles of the lips and face, *puis arrive à peine à la sortie d'un on deux*

centimètres de dehors; the tongue cannot rest in this position; she is taken with involuntary movements which twist and push the tongue into the mouth squeezing close to the face inside the cheeks.

When this young girl is examined nude she shows a general development of the body very striking for her age. Thus the superior part of her body is much more developed than the smaller. At this time of her life she was 11 years old, but looking as if she might be 15 or 16. The eyes are large and brilliant.

The mouth is well formed, but the upper lip is shaded by a slight mustache.

The chest projects and the breasts are remarkably large. The hair at the pubis grows in profusion. The thighs are little less than normal, the legs are rather short, the arms quite vigorous.

Mr. P. Richer, head of the clinic of nervous diseases, examined one patient at this time of life and compared her to another child a little younger and same size. Here is the result of his examination. The difference in proportion between the young *athetosique* 11 years old and the young *hysterique* 9 years old is thus:

<i>Athetosique,</i>	-	-	-	-	127
<i>Hysterique,</i>	-	-	-	-	126.7

In the former the head is larger by one centimeter, lower half longer by two centimeters; superior members longer by two centimeters and to offset this the inferior members are shorter; the hand is longer by one and one-half centimeters; hips larger by one to three centimeters; shoulders larger by two centimeters. In the *athetosique* this extent and breadth is uniform with her size, but the *hysterique* is shorter by two centimeters.

In summing up all, in this *athetosique*, there is a predominance in the dimensions of the head, the lower half of the body and the superior members. But this predominance does not seem to be exaggerated, when she is not able to take in the individual normal changes.

She is not corrupt, but is all that is proper; cannot dress or undress herself without help.

Regarding her intelligence, she understands all that is said to her and tries to reply always. Her brother says she has a good memory. We have already remarked that she was at school for four months, though she does not know her letters.

Six months after she left the hospital, I called to see her. Her mother was out but the little patient remembered me perfectly.

Deformities of the Trunk and Extremities, Articular Lesions, etc. Deviations of the Vertebral Column.—It is well known that the vertebral deviations are very frequent in many diseases, but particularly in nervous diseases.

It is permissible to cite amongst these affections, Friedreich's disease, sciatica, Morvan's disease, syringomyelia, the myopathies, double athetosis, etc.

According to Audry, we recall it in one-sixth of double athetosis cases. They play a considerable part in his memoirs: "Yet is it fitting to remark upon a symptom which has passed, as it were, unperceived until now." The cases which we have brought together, established that it can be recalled, are kyphosis, scoliosis, great curvity right and left. Truly it can be affirmed that there does not exist a uniform type of deviation.

We have already remarked in speaking of the spasmodic walk, that the subject attacked by double athetosis curves the region of the loins and forcibly presents a lordosis comparable to that of a pregnant female.

As for the mechanism of these deviations, Audry believes that they depend on the imperfect action of the muscles. Often it is the spasmodic state which plays the principal part; often the contracting muscles finish by twisting the vertebral column in a manner, otherwise, generally light. But it is not impossible that it acts sometimes originally, not from hypertonicity of the muscle, but from a paretic state of that last. For the rest in the pathog-

eny of all the scoleoses we find partisans of both theories which in many cases are never explained.

In all cases, Audry says, in the preceding facts, one could not think of calling in question bony alterations of the vertebræ.

But if these osseous trophic troubles are unknown in double athetosis, they are counterbalanced by the articular lesions which come by chance in consequence of the movements which are relatively frequent. Oulmont, Charcot and Huet, Brousse, Massalongo, Kussmaul, Audry, etc., insist on the intensity of the involuntary movements and spasms which produce in time a laxity of the same ligaments which voluntarily survive, or under the hand of the clinician, veritable sub-luxations of the phalanges. They have seen the same permanent deformations of the hand, similar to those in classical deformed rheumatism. It is well known to-day, that in Charcot's school muscular action plays an important part in the deformations of knotty rheumatism.

Atrophy and Hypertrophy.—Clay-Shaw was the first to signalize the possibility of hypertrophy of the muscles in the cervical region and in the arms. Oulmont and Seeligmuller pretend that neither the one nor the other are known as double athetosis.

No one has yet noted atrophy being dependent on double athetosis, but there is seen in many observations that atrophy does depend on another disease, particularly infantile paralysis.

Mitchell's case is very clear in this regard. His patient, towards the age of seven, was attacked with infantile paralysis, characterized by violent convulsions, with fever and a paralysis of the inferior members, followed by an arrest in the development of these two members. A case of Massalongo was very much like this one, his patient being afflicted with double athetosis, in which existed infantile paralysis.

It will also be remembered that this is questioned in certain cases of bilateral spasmodic hemiplegia, and where can

be seen atrophy of the members along the course of this last.

Massalongo says that muscular hypertrophy, localized in certain groups of muscles, is quite frequent. "It is the true hypertrophy," said he, "always associated with contractions."

Hypertrophy explains itself very easily, because it does not act as a pseudo-hypertrophy, but as a real disease produced by exaggerated exercise of the muscles, which are the seat of athetosomal convulsions. Audry made this same statement.

It is seen generally on a line with the muscles, which are fluttering, from the contractions and violent spasms of their antagonists.

Many authors have noted hypertrophy of the tongue, which sometimes gives birth to veritable *macroglossie*. In this regard Blocq and Bliss's descriptions in their cases are very striking. Why do they not speak of hypertrophy in the different choreas—the divers tremblings? According to Audry it is because in these last cases *the spasms and contractions are wanting*—not found there—from fluttering against the muscles and forcing aside the development of these last.

Speech.—This is frequently altered by reason of the motor troubles of the tongue, lips, the covering of the palate, also caused by the state of contraction of the muscles of articulation. Clay-Shaw described very truly the lengthening of the words, which he attributes to the slow and gradual reaction which is noticed on a line of the commissures of the mouth. It required an effort to distinguish the language in question from that of the patient attacked with intense chorea.

Oulmont explains that the articulation of the words is constrained by the movements of the face, that the words are spoken with suffering and are drawn out slowly and gradually.

Seeligmuller, on his part, says also that the speech is slowly "drawn out" of the mouth.

Bourneville and Pilliet strongly insist on the differences which separate the vocal trouble in double athetosis from those of *sclerose en plaques* of Friedreich's disease.

When Huet made the differential diagnosis between the chronic chorea and double athetosis he described it thus:

The speech in double athetosis does not resemble that of the chronic chorea. It is more like *sclerose en plaques*, "slow, dragging, more or less scanning often with a little nasal and guttural sound. It accompanies the very pronounced involuntary contractions of the muscles of the lips, of the other muscles of the face in which the spasmodic state is easily seen.

The troubles in speech, says Audry, whatsoever may be the degree of their intensity, are marked in two-thirds of the cases. Yet, in the remaining cases, with very rare exceptions, they pass over in silence the mode of elocution. It seems, nevertheless, that the language can be absolutely correct, but apt to be very abnormal. The athetosis of the face and speech has been recounted in these last conditions.

He also remarks that the lighter troubles are frequently overlooked on a rapid examination.

The troubles of speech can be accentuated to this point that the patient seems incapable of making himself understood. This is not always a direct inarticulation: it is very different in true aphasia. "Aphasia," says Audry, "does not exist in double athetosis."

The verbal surdity, likewise the verbal cecity, do not appear to have been recognized. Some of our most incomprehensible patients, the most silent, understand questions, and answered them by signs, and know how to read and write.

Really there are not more agraphic subjects than aphasic in the real sense of the word. Writing and speaking do not become impossible because of the fact of the involuntary movements and spasms of the muscles.

As for the rest it is an opinion which could occupy the minds of all authors who are interested in this question.

It is a morbid type which puts one in mind of the *dysalalies* of Kussmaul (troubles through defect in articulation of words).

On peut en effet s'adressant à des sujets légèrement touchés, surprendre la focous dont se produisent les troubles en question.

There is seen in the patient's speech, retained and drawn out, produced by spasmodic obstruction of the commissures, due to the involuntary contraction of the muscles of the tongue and part of the face.

In some cases hypertrophy of the tongue plays probably a certain part in rendering speech embarrassing and thickened.

The examination of the vocal chords in Hale White's case gave but negative results. It is not impossible that the functions of the larynx may be irregular, but this fact, if it exists, can have an accessory and effacing influence.

But returning to the clinical ground, we have stated that the patients are afflicted in various degrees. In some the troubles in speech are so light as to be unperceived in a superficial examination; though they are increased by emotion, this developing nearly always into convulsions and muscular spasms very marked.

In these cases, especially those less affected, it can be truly said that the speech is dragged by force from the mouth, such an effort is made by the patient.

Some patients cannot pronounce a two-syllable word, one of Mitchell's not being able to say but yes and no. One of Friedreich's could say but some words and one of my own could not say anything but "Mamma, ouchette," for fork, etc.

In some cases the language is simply nothing, the articulation of the words being reduced to an incomprehensible sort of grunting.

The disorders in speech are, it is hardly necessary to repeat, exceptional, and very obscured in the course of hemiathetosis. The fact need not surprise us if we recol-

lect the rarity in like circumstances in hemiathetosis of the face and tongue.

Elocution can in some cases ameliorate the condition, but very little. In all, it takes time, as in Bourneville's patient; they also become more constrained, so to speak, up to this point, that the trouble rests stationary to a certain degree.

Generally it remains in the same condition for a long time.

In the chapter on differential diagnosis we find the points of similitude and dissemblance, which exist between the speech of our double *athetosiques* and individuals afflicted with Friedreich's disease, *sclérose en plaque*, general paralysis, chronic chorea, etc.

We also see how nearly they approach that one which we have observed in this course—infantile spasmodic *tubes* of Little's disease.

Penmanship.—For years it has been asked if the act of writing affects a subject with nervous troubles of speech and movements, and to-day we possess some observations signalizing the manner of patients trying to write.

In most cases the muscular movements are such that it is naturally impossible for these poor creatures to handle a pen.

In other unfortunate ones the intellectual facilities are not sufficient to receive and develop the necessary instruction.

Here are a few characteristics descriptive of the writing of *athetosiques* by some authors:

Penmanship very difficult to decipher (Ross). Penmanship, legible, but accomplished with pain, and limited to a few words (Massalongo). Scrawled (White). Scribbled and trembling (Griedenberg). Some letters of exaggerated size, but in an illegible scrawl (Hughes).

The patients in writing generally resort to various means to hold their pens. For instance, one of Audry's patients wrote with his left hand, which suffered with less intense movements than his right; Griedenberg's

was able to write with both hands, but in doing so employed certain artifices. For an example, when writing with the left hand, he placed the right on the table, as if for support, the left above, and in this position he wrote.

In the cases of Audry, Charcot and Huet, the pencil was held convulsively between the thumb and forefinger, the others being too closely pressed together, and possessing too little pliability to guide or direct the pen.

The penmanship is much more indifferent and illegible when the writer is observed, as was seen in Charcot's and Huet's patients, but still the letters were more regular than in chronic chorea.

We know perfectly well that in similar circumstances, the voluntary movements and spasms are excessively increased in intensity.

Below is an interesting description from Audry :

The clearness of D—'s writing varies considerably from the moment she takes her pen. When she is left to herself quietly alone, she writes quite legibly, the characters being firmly traced, the letters lengthened and curled, though tremulous, the angles of the smaller ones being quite pointed at top and bottom, are not united in a regular and uniform manner, but are nothing to compare to the disordered penmanship of the *choreique*, or to fine mixed up writing of the agitated paralytic. When she is observed she is completely upset, drawing her pen roughly and hastily over the paper, in a manner already described, and confounding the letters together, so that it is impossible to read them.

Actions the patients can perform.—Imbecility, athetosical convulsions, spasms and contractions, necessarily shackle the voluntary movements, and often the most necessary and simple ones practiced in life.

These unfortunate creatures, from the effect of these athetosical movements, are sometimes incapable of doing anything. They are obliged to be dressed and undressed, given their food, and in some cases even put to bed. There are of course, some able to eat and drink alone, but it is very rare to see the objects guided adroitly, and without hesitation to the place desired.

Some use any means to gain their points, as one of

my patients holds the glass with both hands in order to drink.

Nearly all writers remark that the prehension seemed constrained, as in Hughes' patient, who in cutting his food, would clasp the knife in his hand as if it were a dagger.

Some patients appear to carry a clumsy or heavy object with greater ease than a lighter one. It was thus with the different patients under the care of Charcot and Huet, Massalongo and Sharkey, Beach and Audry, etc., who have recounted the phenomena under different forms.

Mental state.—Clay-Shaw, in speaking of all of our patients, classed them with reason apart, affirming they did not possess even a trace of the physical characteristic of idiocy. (Neither cranial deformation, nor malformation of the teeth and ears, etc.) He declares, that if someone would occupy himself with their education, happy results would be obtained, in spite of their congenital weakness of mind, because these patients do not fall into a state like the chronic dement, for example. When there exists a state of intellectual weakness it does not seem inclined to progressively increase. "Most of the time," adds Clay-Shaw, "there is no trouble taken to instruct, and the opportunities for developing their faculties are lost." Oulmont believes that patients afflicted with double athetosis rarely preserve their intelligence.

If we search for the epoch where the intellectual troubles made their appearance, we will find that they are purely congenital. They develop themselves in second infancy, in adolescence, or adult age; as in the cases of Barrs, Sharkey, Hughes, Massalongo, etc. The other features belong to first childhood, and in their relations, it is not spoken of the precise manner of their birth.

It is necessary to remark that sometimes in making a hasty examination, the patients, even intelligent ones,

passed for imbeciles. Their strange and incessant faces, the various positions which they take, led by their involuntary movements, and specially their difficulty in speech, emphasized in certain cases, incomprehensible rendering, all of which gives one a very poor impression of their intelligence.

On the other hand, the imbeciles, or complete idiots, are not much more numerous in all, and to judge from observations, those which have preserved what intelligence they have, are in certain cases good enough. In the first, the cerebral functions are always more or less affected. Often intelligence is mediocre; other times, he is an imbecile, and again an absolute idiot. There is found in these last circumstances, more physical stigmas of degeneration, malformation of the teeth, microcephalus, or various cranial deformities.

Richardière, Massalongo and Osler pretend that double athetosis is closely allied to imbecility. Bourneville and Pilliet declare that the intellectual weakness does not tend to increase. Huet, who otherwise, agrees with all the neurologists, believes that there exists nearly always more or less marked imbecility and mental weakness. Such also seems to be Audry's view of the matter.

Certainly they do not fail to generalize. There are some cases like Kurella's, where the central disorders have not been augmented and follow a progressive course.

Besides, the troubles allied to epilepsy (cases of Warner and Mitchell) have been recorded. Greenless signalized in his patient signs of mental alienation and secondary dementia. This is rarely excited, but shows itself emotionally from time to time.

We believe it will be of interest to give the following list of those patients, in whom intelligence appears to be good as those who have been relatively speaking, only slightly affected.

Clay-Shaw.—Intelligence entirely clear—reads and writes fairly well.

Idem.—Intelligence developed. Memory intact.

Warner.—Patient intelligent.

Ross.—His patient is incapable of speaking, but she reads with facility, taught herself to write, dances well, has talent for music, and plays well upon the piano.

Barrs.—Clear intelligence.

Sharkey.—Patient appears very intelligent, and has a good memory.

Richardière.—Child, gentle and intelligent, and knows how to write and count. (Jeanne.)

Idem.—Sufficient intelligence. Can read and write. (Andrée.)

Blocq and Bliss.—Intelligence preserved.

Robertson.—Intelligence preserved.

Massalongo.—Intelligence quite clear. Memory good. (Name of case Riccardo.)

Idem.—Intelligence lucid. A little flighty. (Faccim.)

Idem.—Sufficiently intelligent physiognomy. Penmanship scrawled. (Rosina.)

Idem.—Intelligence moderately developed. (Lombardo.)

Charcot and Huet.—Memory and intelligence good.

Charamo.—Child, not lacking intelligence, and could read well.

Rau.—Patient intelligent, memory good, and could write.

Kussmaul and Schæde.—Intelligence preserved.

Hughes.—After being exposed to danger, intelligence is perfect.

Jeffrey and Huet.—Reads and writes, and memory quite faithful.

Adersen.—Intelligence and character not modified.

Audry.—Very intelligent. (M. D.)

In short, out of eighty-seven cases of double athetosis, published before this, we find the intelligence well preserved in thirty-one patients; in other words, in one-fourth of the cases. The presence of intellectual troubles exists in the majority, but there are frequent exceptions to this rule.

The following observation, which we received from a consultation outside of Salpêtrière, is of a child, six years old, in a state of almost complete imbecility.

OBSERVATION 3.—(*Personal.*)—*Athetosis of the four members and the face.—Imbecility.*

Paul G——. Was brought to consultation outside of Salpêtrière when six years old.

Actual state.—Nearly complete idiotic state, though sometimes is conscious of certain attentions.

He is a natural child, about whom it is impossible to find any information touching his hereditary or personal antecedents. From the person in whose charge he was, we learn that the mother during her pregnancy was in a nervous, excitable frame of mind. The child is dressed like a girl because of urinary weakness, is inordinately developed for his age, and whose head is not very large, no asymmetry of face, no cranial deformation, teeth well shaped, palate normal.

The face is animated almost continually by involuntary movements; the skin lies in folds above and below; the four extremities show athetosical movements of variable intensity, but typical; slow, gliding, and assuming the strangest and most extraordinary contortions. Sleep alone suspends the involuntary movements. Rigidity of inferior members.

Face.—All the muscles of the face contract equally and simultaneously on both sides of the face: the frontal, orbicular, superciliary the two zygomatic, the visional and the triangular of the lips; but the movements are still more characteristic when the patients want to speak, laugh or eat, then the mouth opens; when it closes, the face relapses into folds, *naso-labiaux* and the *naso-jugaux* deepening alternately and falling into the strangest grimaces, the most unexpected and whimsical. The tongue is not hypertrophied, the patient being able to extend it but for a moment, as it generally stirs from side to side, or backwards and forwards. He does not slobber.

His speech is abrupt and explosive, besides the little patient is an imbecile, does not know how to say even Paul, or *ouchette* for fork. He oscillates from side to side, but more specially backwards and forwards.

Superior Members.—When the patient is quiet, seated for example, his arms cling to his side, the hands joining and separating alternately; the fingers extend and contract, interlace, spread out like a fan, then return together again. The wrist movements are less frequent and slower, being sometimes flexion and again extension. Specially there is a state of instability in both superior members. Nowhere is there deformation. There is perceived a certain degree of rigidity in the arms when the patient tries to extend them. The athetosomal movements show the same intensity on one side as the other, the force being equal.

When the little fellow wants to lift a spoon to his mouth he clutches it full in his hand and after some slow and oscillating movements manages to lift it there, but cannot feed himself, neither can he dress himself or put himself to bed. He handles large objects better than smaller ones, the latter slipping easily from his fingers.

Inferior Members.—The athetosomal movements are much less pronounced in these members than in the superior extremities. They consist in some lateral oscillations of the feet and a slight flexion of the leg under the thigh, being reproduced simultaneously and equally on both sides. Some alternate movements of flexion and extension in the toes. The patient has never walked alone, but he can walk if he is held by the arms, then the whole body stiffens, the thighs bend under the pelvis, the knees knock each other, the limbs separate, the feet turn in and rest on the external edges. The walk is accomplished by jumps and is more of the spasmodic class. During this exercise the athetosomal movements of the face, fingers and toes are at their height. There is no paralysis of the members, no hypertrophy, no atrophy, no deformation of the feet nor deviation of the spinal cord.

Reflexes.—The rotular reflexes are difficult to produce

owing to the rigidity of inferior members. There is no epileptic trepidation, no nystagmus, nor signs of Romberg. The general sensibilities appear preserved as well as can be judged in a child almost an idiot. The electrical reactions are normal. Feet and hands red and cold. Nearly all the functions perform well. Most of the time there is loss of control over the bladder and rectum.

Epileptic and Apoplectic Attacks.—Convulsions.—These are nearly always constant, specially if double athetosis dates from early infancy; sometimes the convulsions are transitory; often they are repeated for a period of some months, and then again they never leave the patient, but this is exceptional.

They come sometimes, without occasional cause, succeeded generally by a painful *accouchement* and traumatism. In some cases they announce the beginning of double athetosis; as according to Massalongo, the convulsions are nearly constant, when double athetosis shows itself in the past years of the subject's life.

The attacks of apoplectic forms are observed more specially in mature age, in adults, followed sometimes by paralytic phenomena (Sharkey, Greenless), they seeming to be frequent in children also, but more often they are blended with the convulsions of the child and to which we have had no recourse for studying this point, for in the majority of cases, the parents could not distinguish the difference. In one of my patients from what the mother said, the attack came on in an apoplectic form. This form also appears ultimately in the disease. Kurella marked apoplexy in one of his, in the patient's last days before death. Convulsions of an apoplectic and hysterical nature are exceedingly rare.

3—ACCESSORY SYMPTOMS.

1—Motor Troubles.—Contractions.—It is seen that contractions are observed everywhere: in a muscular group, sometimes in another, contractions which twist themselves into various and peculiar groups in extremities and trunk.

The arms are generally in abduction, the fore-arms being successively in flexion and extension, in pronation and supination, the hands bending, the fingers placing themselves in flexion under the *métacarpa* in extending on a level with phalangeal articulations. On a line with the toes and feet the same contractions are produced in abduction, adduction, flexion and extension. The contractions and spasms sometimes in place of being transitory are transformed into contractures, and finish by immobilizing the superior members, on a level with which can disappear athetosis.

These contractions show variable degrees of intensity; in the case of Jeffrey and Huet the adductions of the hand are contracted. In one of Dreschfeld's patients, the muscles of the fore-arms were rigid. In Massalongo's the hands were contracted. These contractions do not depend on the paralysis of antagonistic muscles, but are exaggerated by athetosomal movements by excitations of voluntary movements, emotions, etc. They can completely immobilize, or nearly so, the superior members (obs. of Clay-Shaw, Richardière, Blocq and Bliss), but less frequently therein, than on a line with the inferior members, from what Massalongo says.

It is known that in Little's disease the contraction of the inferior members is constant, that it lays siege sometimes to the superior members in the spinal type and often on a level with the latter in the cerebro-spinal type.

The type most often observed in the superior members is the one in flexion, in which the fore-arm is bent under the arm; there is also a permanent state or condition of extension of the member, adduction, flexion of the wrist, deviation of the fingers towards the cubital edge, etc. On a level with the inferior members, the toes place themselves in forced positions, the feet becoming transformed into club-feet, the legs brought back under the buttock of the patient, obliging him to walk on the knees and the anterior part of the legs.

The muscles of the neck become rigid through spasms, sometimes being the seat of permanent contraction.

Paralysis.—Veritable paralysis does not exist in double athetosis, most of the writers recording it simply a *slight impotent motion* from the effect of inertia, of contractures, or of articular deformations. In the ultimate length of the affection impotence may be marked enough to merit the name of paresis.

Greenless's case is exceptional, athetosis showing itself in a general paralysis. Hughes has seen brachial paralysis accompanied by contractures, and which was cured with the facial paralysis. Gen's case is of the same character.

Vaso motor Troubles.—These troubles, which are nearly always regular in idiots, have been marked by many writers in double athetosis; coldness of the hands and feet, which appear red, livid, violet and humid.

Brousse, Leube and Delhomme marked hyperhidrosis. Audry insists on the exaggeration of sweating in his patient. "When she was slightly moved the athetosical movements increased and the perspiration flowed in large drops down her face." For my part, I have never observed this phenomenon.

SENTIMENT.*

CHAPTER THIRD OF REASON AND MADNESS.

By Professor AUGUSTO TEBALDI, Padua.

LET us imagine we are in Paris on one of the memorable days of 1789. A crowd of revolutionists breaks into the Asylum Bicêtre, in order to discover whether there are within its walls any victims of tyranny, for in those days all were either victims or tyrants. Believing that they had found a good specimen in one of the guests of that establishment, seeing that he answered questions properly, and that he swore, and cursed the aristocrats and the haughtily rich, and begged for his liberation, they dragged him forth, and carried him triumphantly on their arms into the midst of the surging throng. But having become excited by the noise, the tumult, and the sight of so many arms and armed men, that quiet liberated man changed into a fury, and getting hold of a sword that was within his reach, he dealt down blows right and left on his liberators, who in their turn attacked him, overpowered him, bound him tightly and took him back to his proper lodging in the Bicêtre.

Let us now pass to Venice, and fancy ourselves in the dawn of 1848. Daniel Manin, the President of the short but glorious Republic, was a modest advocate. He was an advocate to the very marrow of his bones, in the gathering of accusations, for the future cause of the revolution. He one day heard of a violent commitment to an

*Translated by JOSEPH WORKMAN, M. D., Toronto, Canada

[NOTE.—The readers who may desire to comprehend the extended sense in which the word **SENTIMENT** is used by the author of the above very interesting and very truthful little work, will do well to look into Worcester's English Dictionary, for the various meanings given to it by the famous American lexicographer. The literal signification must, to a Latin scholar, be quite obvious. It is **MENTAL**, not physical, **SENSATION**, perception, impression, feeling, emotion, etc., etc., etc.—*Translator.*]

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don the error of the heart of Daniel Manin, more justly than that of the brains of the French revolutionaries of 1789. It is an error common to many; but by good fortune not always followed by serious results.

The children of drunkards, of epileptics and hystericals; offshoots of a diseased trunk; inheritors of an excitable and unsteady character; with violent propensities; incapable of early training, or never having enjoyed that education which is imparted by parents in the family circle, far rather than by teachers and books; creatures refractory to those sentiments which bring into life, and which foster the moral sense in a thousand ways, alimmented by suggestions and examples; these beings, so sadly fated, frequently possess in early life, a rather brisk intelligence, but it soon becomes exhausted. A certain inequality in their mental powers; a dominant one sidedness in their views; a speedy tiring of intellectual work, which hardly ever is carried out orderly or profoundly; an attention which soon wanders, and a will which soon weakens—these are the salient lines of their intellectual profile. In the moral field appear outbursts of violent, unbridled passions, which either soon pass off, or sink into brutality. In the physical field also, the *physician* gathers not a few characteristics that distinguish these individuals, brothers of the liberated guests of the Bicêtre and S. Servilic, but this research we turn over to *him*.

Sum up now the whole, and you shall find that the greatest deficiency in them all is that of the moral element; hence the person who has lost most is not the intelligent, rational man, but the moral man, *the character*. These beings are most illogical in practical life; they would seem to be pleased with being entangled in a net, from which they seek to escape either by crime or by suicide.

Here we have a sad variety of candidates for the prison or the mad-house. These incomplete creatures, in whom the moral sense is wanting, true and solid

affection impossible, who run into crime fatedly, have been styled *moral lunatics*; there has, indeed, been one eminent author, who, in order to better designate this want of balance between the intellect and the heart, this modality of intelligence special to them, has called them *reasoning lunatics*. O, that the word had never been written! A scoff which might have died among the vulgar crowd from whom it started, found deplorable echo in the columns of newspapers, on the benches of justice, and among polemical spouters. Change, as you please, the word—the thing remains.

One morning the capital of Lombardy was thrown into commotion by a very sad event, Signor A—— A——, had thrown himself into one of the canals, near the city walls, carrying with him his only son, a child of a few years; the unnatural father was saved, the child was drowned. Then arose a cry of universal execration and commiseration. A few months afterwards, in a conflict of an assembly of experts, a learned doctor, whose knowledge was justly in great honour, declared that father a moral lunatic, an example of reasoning insanity; his decision was accepted by few. It became a subject of astonishment, and still more, of derision among the crowds on the streets, in the public halls, and in the press.

In the family stock of A—— A—— there were insane and strange members; two young brothers had died of brain disease, and one sister was a dement. His youth was signalized by violence and strange acts, which showed him to be a person of little judgment, of strange character, of good, or better to say, of expansive heart in his early propensities. As a student, a collegiate, a traveler and a volunteer, he always presented the same prominent lines—thoughtlessness, prodigality, effrontery and sensuality. Having gathered in his assets; he married, and had a jolly life as long as his money lasted; but in his first embarrassments he became fertile in delusions and absurdities. Abyss called to abyss; he became alienated from his wife, demanded separation,

and, loaded with debts, projects and proposals, he left his house, to which he was glad to return a little after, in great distress, quite demoralized, and overflowing with insane projects.

A perverse and eccentric family life had created a position from which he thought of freeing himself by suicide. Through the deep gloom of those last days of anguish, there beamed but one star, the image of his little son, on whom he lavished caresses and emotional attentions, yet showing, even in this affection, strange contradictions; while kissing he would pinch him; just as he declared that he loved his wife, when in her company, and at the same moment harshly abused her.

Having decided on killing himself, what would he leave with his wife? The treasure which he most loved, his little son! After this reasoning, which could proceed from only a diseased moral sense, he resolved to kill, along with himself, his own son; but just as in all other scenes of tumult, his energy flagged; it was exhausted in the failure of his drowning attempt; he abandoned the body of the little boy, which was cast up by the waves, and the unnatural father came forth in the vesture of a coward. Being brought before the court of assizes twice, on the second occasion, all the expert witnesses save one, affirmed that so unnatural a person should be regarded as an example of moral insanity, a reasoning madman. Ever since 1873, Signor A—— has been in the prison of Ancona, and his deportment as a convict has fully confirmed the judgment of the majority of the experts.

Such is the perversion of the sentiments, and the deformation of moral sense, exhibited in these beings, who stand with one foot on the brink of insanity, and the other on that of reason, equally prepared for crime or for suicide.

Infinite are the modes of alteration of the sentiment of the insane, and infinite too are the shadowy forms of this element in the moral man, as studied in society.

The sentiment is so great a part of us, that our joys, sorrows, emotions, ravings, all come from it. It may be said that the brain holds the reins, and sentiment is the charger that carries us, and that many times gives orders to the rider; and in other instances, seizing his hand, and however short may be the race, it threads the way to the asylum. So frequent are these flights that they hold the first post among the causes of insanity.

Life is a serious school for studying the human heart, but he who would know its depths, in its maladies, must enter that refuge in which they are studied in their last phases, that is, the asylum. Here the heart is stereotyped in all its vibrations, from the most noble to the most abject. The alienist has the subject of his research anatomized under his own eyes, so reduced into its elements as to show its innermost structure. To use the simile gathered from an insane female the alienist is a watchmaker who sees the wheels, the axles and the hands, on which he searches for the cause of the frictions and the wearings that change the movement of the nice contrivance.

In the asylum the psychologic man is viewed through an enlarging lens, by which the observer is enabled to carry his vision into the most noble of his organs, to spy out its recesses, and to number its groanings. Every fibril of the human heart, in its vibrations, represents to the psychologist a precious element of social and family life. By means of this study he ascends to the origins of moral facts, and measures their value, and thus he discovers that those which are most esteemed have sometimes an ignoble origin, whilst the truly ennobling are left in obscurity, and are neglected.

In the asylum there is displayed a loftiness, which passes for modesty, an egotism that has been philanthropy; depravity that once was love; impotence that was virtue; brutalism that was glory; resignation that was torment.

How many are the deformations of the sentiments found in the asylum!

A delirious idea, blowing across the most elevated wave of sentiment, puts it into tumult, turns it from its course, and sometimes forces it backwards. Signora R—— is 31 years of age, she has four children; her father was a melancholic; she suffered some mental disturbance in her pregnancies; in the eighth month of nursing she thinks she is the cause of the ruin of her family; she is profoundly anxious for her husband, who would be forced to provide for them; she was so tormented by this idea that whilst suckling her infant, she was seen to squeeze it so strongly to her bosom as to suffocate it. These acts were so often repeated that it was evident she was determined to kill it. They could not trust the child to her longer than was required for its sucking, and even then she must be closely watched. She finally felt so irresistibly impelled to accomplish this act, that she requested to be removed from home, and not to see her children for a long time. What had become of maternal love in that heart? She ended life in the asylum.

In the family of A. Humboldt, a good and affectionate female servant requested to speak privately to her mistress. When she came before her, she threw herself at her feet and begged permission to leave the house. On being asked the reason, she confessed that every time she undressed the infant she was enchanted with the whiteness of its skin, and she felt an overpowering desire to cut its throat. That poor woman was sent away; a perverted sentiment had obtained command of her mind; she was conscious of the fact, and she escaped the catastrophe.

A young lady presented herself to an alienist, and begged to be admitted into the Health Retreat, (*casa di salute*), because she felt dominated by a strong impulse to kill somebody. Under a paroxysm of this nature she implored the physician to restrain her in a strait-jacket. That lady did not rave; and she was possessed of an orderly and very bright intelligence, with mental gentleness.

In some affected persons a real inversion succeeds to

the most loving and benevolent sentiments. A docile and affectionate girl, in certain periods, becomes transformed into an unbridled^d fury against her mother and her sisters, whom she before dearly loved. A wife and most loving mother, insults her husband and her children; she is enraged by the very sight of them, yet she is calm in the presence of strangers.

The more lofty the egotistical sentiments become, the more do they usurp the domain of the *altruistic* or philanthropic sentiments. Love towards others diminishes coincidentally with the exaggeration of self-love. [Does not the same rule hold good in overweening national love? Look around and judge.] The aged man, evermore possessed with the spirit of conservatism, narrows constantly the circle of his affections, until they finally become concentrated almost solely in himself. [Is this the fact in Italy? I think I know of many exceptions in America.] The hypochondriac not merely reaches apathy: he seems to be pleased with the cemetery he has peopled around him, and he delights in rummaging among the ashes of his affections. There really runs a shivering through one's bones, in listening to the confidential details of these unhappy beings, as we witness the vanishing from their minds of every spark of sentiment.

A mother of a family, who before had ever been loving and active, is overcome by a hypochondriac anxiety, which gradually augments and renders her indifferent to the cares of her house, and the affection of her children, whom she had so dearly loved. Her intelligence remains bright; consciousness of her own condition is not darkened; she witnesses the eclipse of her every affection, and she describes it in language so graphic as far to exceed that habitual to her. If she had seen the very deaths of her children, she would have felt no pain. She no longer cares for her husband or for her own concerns; her whole attention is concentrated on the vicissitudes which have destroyed her health; she would try all the drugs of the pharmacopœia; she

begs for poison, and she cannot understand why the doctor, through mere compassion, is not persuaded to grant it. Every day she wanders up and down, groaning in distress, as if a serpent was gnawing her; her physiognomy is transformed, but she is still plump and fat, though she no longer feels either her arms or the back of her legs. A few months passed over (*where?*); the cloud vanishes; consciousness becomes again serene; sentiment once more brilliantly beams forth, and she returns to exchange affections in her family.

It has been said that contradiction is frequently cherished within the folds of the human heart, and indeed there are, in the field of the pathology of sentiment, many clear proofs of the fact. Open the doors of that tranquil (!) house in which three or four children are at play (!), and a good woman is attending to her domestic cares, whilst in a recess of a garden sits the head of the family. Question him, and he will tell you of strange suggestions that torment his mind; of sacrifices made by him for the poor and for his friends, from whom he has received in return but calumnies and persecutions. His aspect is manful, he is robust as a Hercules, his head large, high and commanding; no one would venture to touch, much less to assault him. His confessions reveal a mental disorder not grave, which he is able to conquer by some reasoning; but amongst the dark spots there is one very prominent, which constantly comes back into the field of the affections. He does not hear voices, nor see imaginary persons, but a prompter which he feels within himself, and with which he painfully contends, urges him to kill his own wife, the mother of his children, the woman whom he loved. This prompting, which he has resisted for some years, changed its formula of extrinsication, telling him that one of his friends had been freed from a similar torment by killing his wife. Then it was that this father was taken from his family, and was shut up in an asylum, where he so well concealed, for three or four months, the monstrous

change of sentiment, confessing and condemning it, so that he was taken back to his family. But in the midst of the most tranquil and sweet affections, he returned to the same delirium of sentiment, and he was sent back to the asylum.

But we do not always encounter apathy and deformation in studying the life of sentiment in the asylum. It is not true that within these walls all is deformity, demolition and chaos; order sometimes steals into disorder, and the pathology of the heart is but an exaggeration of the laws of physiology.

In certain expansive states of the soul all the sentiments may reach their highest pitch. A ruinous prodigality, in a man previously discreetly benevolent, is the forerunner of an insidious mental disease; an exaggerated expansion, an inconsiderate confidence, on first sight, a transport of affection, which all at once discards social distances, or relationship, which were before maintained—these are acts which are observed in the asylum among the noisy and gabbling, friends to everybody. They meet you with a smile on the lips, as if they had known you for years; they reach to you the hand, and however coolly you respond to their courtesies, they will embrace you and kiss you with that tenderness which so much reminds you of that of the drunkard in going through the first act of his insidious comedy. Nor do the sullen sentiments acquire, in their outbreak, less suddenness and elation. A mere nothing rouses to fury that patient coiled up in a corner of his room, utterly mute and torpid. He is an epileptic. A single word misunderstood will start that other, like a trap-spring, who is moving around quietly, muttering to himself, and mentally pursuing a thousand chimeras. Neither reasoning, nor entreaties, nor commands avail to calm his fury; his wrath must ascend to the summit of its parabola, and it will terminate in the solitude of his cell and the prudent restraint of a camisole. That man is a victim of alcohol.

To the first of the preceding varieties of insanity you will find a striking contrast in the female department. Among these inmates are the family of the choleric, the exposers of other people's faults, which when not invented, are always vastly exaggerated. These are envious of the good of others, and often happy from their sufferings; capable of weaving intrigues with an unspeakable fecundity of ideas and of malevolence. In the life of the family they were the tormentors of all, the element of dissolution, the most implacable perturbators of peace; they would be just the same in the asylum, were they not held in order by the grave deportment of the physicians and nurses. These sphinxes, ever so much interrogated, always leave us in the same perplexity; though recognized by all, yet are they difficult to designate and define.

But let us rather lay hold of these benevolent sentiments, which often acquire a more brilliant light in the tumult of insanity, and let us see how much the sense of goodness cheers and upholds those afflicted souls.

The necessity of loving is exhibited in a thousand forms among the insane, but the aspect of love is very different in man and woman. In man the tints of egotism and the supremacy of passion predominate; hence we have in him the readiness for desperate acting, the cold ashes of apathy, the demolishing age of depravation, yet pity, benevolence and friendship shine brightly on the affecting scene of the asylum. The insane man becomes the friend of his companion in misfortune the moment his delirium is calmed; he assists him, he watches him, he becomes his nurse. In few instances is benevolence shown under semblances so splendid as in the spectacle presented by the insane man; to-day excited and terrible—to-morrow he bends over the bed of a companion, to give him his food or a sip of water, or perhaps to kiss him, mindful of having irresistibly offended him.

But on the field of sentiment, woman is queen in the asylum, just as she was in the family. Innumerable and affecting are the pictures of pity and love presented to us in an asylum for women. The convalescents are to the poor patients true sisters of charity, delirium itself seems to grant a truce, when one of those not infrequent tumults calls for their kind work. Dements, imbeciles, become the working bees of the asylum; and they grieve when they are removed from their pious labors, once they have become accustomed to them.

An aged woman, who had the intellect of a baby, gave assiduous assistance, through many years, to her companions, stalking around as if she were chief nurse. Such were the order and the constancy with which she performed her work, that she might not have been called a lunatic. When this good creature died, her bedtick was found nearly full of things of all sorts, which she had there hidden. With what delicate tints pity may be invested in the asylum, is seen when it comes from one of those beings of fine sensibility and intense affection! There move around, through the meanders of asylums, slender ladies, pale and all sentiment. They bend lovingly over the beds of vulgar women with wan faces, and glazy eyes, incapable of returning with a thought of gratitude the cares and caresses of those ministering angels, or of realizing that sweetness which reaches the heart of the dying from the tear shed on the coverlet, be it even that of an unknown person.

Woman, secluded in the asylum, renounces not affection; she is ever mother, sister or lover. In infants and children that fall sick, she sees her own children, and the relics of maternal affection render her anxious for her present charges; and when a long delirium has blunted in her all power of thought, and she has become demented, it is not rare to see her laying by her side in bed, a doll, made out of a few rags, just as she once did with her childhood's doll. When a child there was in her that instinct which was educated into the sublime

forms of maternal love; having become a wife and a mother, she passed, in the conflict of a sad malady again into a child; it is the relic of that instinct, which is exhibited in its primitive forms. The doll of the demented woman is a psychological fossil, which speaks to the physician of the long cataclysm, traversed by that spirit, which in deforming its last and complex features, has reduced the moral elements to their primal forms.

In her companions in misfortune, woman often fancies present her own sisters and relatives, and she draws comfort from the sweet illusion. In love woman exhibits all that supremacy which is ever her ornament and her right. All the pages of the unending romance of love, which the human heart evolves in social life, are open before the alienist; all its dramas, with their joys and their tears, are presented to his eyes on the pitiable scenes of the asylum.

We have but to select in order to gather in the threads of romances, far more true than any that have come from the pen of the writer of fiction.

Here is a silent and gloomy physiognomy, enwrapped as in a thick mysterious veil, from under which peep forth torment and anguish. It is the wreck of a sea of tempestuous passion; it is the protagonist of a drama that was acted within the walls of a modest house, on the bank of a river, where the days seemed to pass happily. That house was rendered a desert, and to an inquirer who sought information, the reply was: The betrothed of the daughter was thrown into the river; they found him near the place; the daughter died of consumption; the mother is a dement in the hospital; she had forgotten all, husband, daughter and lover.

It was the remorse of a virgin conscience, which brought to the asylum, that patient now before us. Two years ago that girl left her mountain home, to earn some quarters with which to aid her sick mother. She was a simple lass, a true mountain flower. She soon exchanged her drugget vestures for those of the city,

with flounces and flowers. She discarded the swaying pace of the mountaineers, and studied the nimble and stately steps of the city belles. She became a pleasing servant. Her employers were a young married couple; she could not discover why the eyes of her master were so often fixed on her, nor could she understand his flattering language. His gifts and furtive caresses troubled her. Remorse struck her on the path which she trod with so much innocence; she was so deeply afflicted that no pitying words could heal her broken heart; she became utterly silent; for many nights she did not close an eye; she took no food of any sort; in a short time she became thin and pale, and she was so profoundly melancholic that she was placed in the asylum. She never found a word to express her horror of a fault of which she knew not even the name. The disease that was consuming her brought on a fever; in a few days the lovely flower of the mountain drooped the head, in its early spring, under the blast of the tempest that had struck it.

Sentiment has the chief part in the economy of the life of social man; the passions are its accentuated language, and they often deform it; diseased states of our nerves and senses debase it and give to it a morbid expression. From society at large and from the asylum we may derive evidence of the high value of sentiment, and we may discover how vast are the ruins of it, that are produced by the passions and by insanity. Crime, suicide and insanity very largely are the results of sentiments that have gone astray. Who is able to mark the boundary lines between passion and madness? Who can say where passion ends and insanity begins? Passion, from the summit of its curve, shows us everything in a false light; it deprives us of sleep, troubles us, and sets us to rave. In what then does the victim of passion differ from the lunatic? The phenomenon is the very same, the duration alone differs. An emotion of passion raises us to the highest pitch; but the curve descends, and by

degrees we may come down to the confines of calm ; but when we have struck the highest note, the soul may be eclipsed ; the disturbance of passion is then all one with insanity.

What instrument can give us the measure of those oscillations of the soul, which, from the slenderest notes of sentiment may lead on to those of madness ? And yet physiologists have set out to find the measuring instrument of the emotions, the thermometer of the sentiments !

To some among my lady readers it doubtless must have happened, that the bold glance of a man has provoked a rapid shivering over the skin, and then a purpling of the cheeks ; or an indiscreet word may have paled and reddened them in rapid succession. The return of a loved one, who was believed to be dead or in danger, will, in another, have quickened the pulse beats, and under a wave of enthusiasm, she will have felt more vigorous, more grand than ever before.

These and a thousand other facts prove that the most secret of our emotions, brings into livelier play the heart which throughout life never halts, and that all the vessels dilate and contract under the influence of those nerves that faithfully accompany them in all their course. How many times may we not have imprecated those most mobile nerves that rebelled against our strongest will. We may succeed in moderating their energy, and some persons have the happy faculty of bridling them ; but even to the most robust characters, there comes an instant in which these nerves rebel and reacquire their independence. It will be understood from this, that the diameter of our cutaneous vessels is continually changing, because of the varying pressure produced by the wave that comes from the heart, and because of the varying resistance of the vessel-walls, produced by the nervous action. The greatest of these changes gives to our members themselves a different volume, and here is it we see opened a new field of research to physiologists, who ever rush on so boldly in their scientific espial over our emotions and their effects.

This espionage has been attempted by every means, and in every way. A stone that fell on the forehead of a poor mason smashed the bones of his skull, so as to carry off a considerable portion of them; a terrible disease inflicted on a woman by her husband, led to the erosion and loss of the bones of the face and the cranium, many parts of which were destroyed. These sad results prompted the feverish curiosity of an experimenter to study the changes of the brain in waking, in sleeping, in rest and in intellectual work, in calm and in the tumult of the emotion. Bear in mind that he was to enter with his exploring instrument into the chamber of the brain, the kingdom of thought. He ideated an instrument, unassisted by others, resembling the little balls of compressed air, which everybody knows. Place over the side of the ball of gum a body of another form, which shall adapt itself to the surface of the brain, and on the opposite side of the tube a connection by which the hand (index) shall mark the movements transmitted by the disturbed wave of air, and with the point shall leave marks on a smoked rotating cylinder, and you will have in the rough, an idea of the daring exploring instrument.

This exploration of the dilatation of the vessels and of the different states of consciousness, and of activity of thought, is also practiced on the surface of the arms and the feet, and thus we come to know that our entire body feels the oscillations of the circulation under the emotions, and bears witness to them with appreciable changes of volume. The contrivance, which our author is pleased to call the *pletismograph*, or measurer of the state of fullness of the vessels, some other writers have baptized with the name *psychometer*, or the measurer of the acts of the *psyche*—nothing less.

But to you it will be interesting to know to what will all these studies lead, for when a physiologist lets you see that he, from certain markings of his instrument, is able to tell you whether the subject of his searchings is in a quiet waking state, or is dreaming, whether when

awake he is in perfect repose of mind; whether an object, a story, or a person has moved him, or not, there is something in it to excite wonder, and to cause serious expectations.

If they go on at this pace, it is surely to be feared that, some day or other, an instrument applied on the chest, will give the measure of our every emotion, the energy of our every thought; we then shall have the stenography of the soul, in its festals, its sorrows, and its anxieties, and our hearts will have very few mysteries. How will it go then? It is difficult to prophesy.

But fear not. We are very far from these results. The most trivial of our intellectual acts, the most slight of our emotions, have many factors, which modify their intensity and duration: to indicate how much is due to each of these factors in the genesis of any psychological fact, which we attempt to examine; to purify it from the influences incident to life, and to render simple that which is so very complex, will always be a difficult experiment. Return, therefore, your heart to its quiet refuge; these few lines may perhaps have made it beat at a different pace; but do not fear for your secrets; they will remain hidden within the unexplored folds of your heart. Put on a good face in front of this science, which, like a daring diver descends into the abysses of consciousness, and comes up triumphant, if he brings back a little mite of truth, to augment the treasury of the science of life.

To this explorer of the emotions and the sentiments, the asylum for the insane is a vast sea, whose bottom is rich with unexplored and new treasures.

Passivism. — A Variety of Sexual Perversion.*

By DIMITRY STEFANOWSKI, Jaroslawl, Russia,

Assistant Imperial Prosecutor.

READERS of Rousseau's "Confessions" will no doubt recall his account of his strange adventure with Miss Lambercier, wherein are depicted the singular results of castigation by her. As he says himself:

Long tormented, without knowing wherefore I gloated with an ardent eye on beautiful women. My imagination unceasingly called them up only to place them and myself in the relation of Miss Lambercier and me. To be at the feet of an imperious mistress, to obey her caprices, and, to be obliged to demand her pardon, seems to me the acme of human happiness.

Binet,¹ in his discussion of fetichism² has lucidly portrayed the phenomenon of which I speak, but has not clearly discerned its true significance. The sexual perversion, which I have entitled passivism,³ appertains to the same group in psychiatry as sadism,⁴ of which it is the exact opposite. Passivism⁵ consists in the complete

* Translated from the *Arch. de l'Anthrop. Crim.*, May, 1892, with comments, by Jas. G. Kiernan, Chicago.

1. "Revue Philosophique," 1887.
2. Binet applied this term to the sexual perversion exhibited by collectors of napkins, shoes, etc., which articles play here the part of the fetic in early theology. In the chivalric love of the middle ages this fetichism appears. The "favors" given by fair ones were both "tokens of remembrance," and sexual excitants of satisfaction. Sir Walter Scott significantly says anent these ("Essays on Chivalry"), "In the attack made by Buckingham on the Isle of Rhe, 'favors' were found upon the corpses of many French soldiers, but for the manner in which they were disposed we are compelled to refer to Howell and Wilson." They were arranged around the sexual organs. See also ALIENIST AND NEUROLOGIST, April, 1891.
3. Subjectivism would be a preferable term, since there is an active acquiescence engendering feelings of a positive type.
4. Sadism is lust seeking sexual excitation by pain of, or violence to others; so called after a pervers of this type, Marquese de Sade (ALIENIST AND NEUROLOGIST, April, 1892).
5. Passivism is an evolution, which has developed along lines already laid down in the April, 1891, ALIENIST AND NEUROLOGIST. It was there shown that the

abdication of the will of one person to the profit of another with an erotic end.

In the present paper passivism¹ in the male only will be discussed. This may be defined as voluntary subjugation of the male will to the profit of the female, accompanied by an intense desire for abuse and maltreatment by her. In the last factor consists the voluptuous ecstasy of the passivist. He longs for humiliations, invectives, even blows from the female, since they alone can plunge him into such an acme of volupity.

Passivism is far from infrequent in literature. Zola, among others, has depicted it, and his famous scene between Nana and Count Muffet has an English precedent in a scene of Otway's "Venice Preserved," between a Senator Antonio, who acts, with all the imbecile apishness

phenomena of sexual selection demonstrate that a complex mental state has resulted from the evolution of the simple search for physical sexual means of satisfying protoplasmic hunger. These sexual selection phenomena show that pleasure has ceased to be dependent on simple sexual conjugation, since ideas of beauty, of attraction to the most beautiful, and of maternal love, have evolved from the sexual desire of satisfying protoplasmic hunger. Thus have been developed inhibitions on explosive sexual performances which tended to restrain egotism evident in the purely sexual propensity. Hence pleasure associated with conjugation with a given subject arose on sight of that subject, and sexual pleasure evinced itself in attempts to please the cause. These repressed explosive manifestations of the sexual appetite thus producing more intellectual and less obvious physical enjoyment of sexual society. By an ordinary law of mental association, attempts to please the cause of sexual pleasure, in themselves finally pleased without the presence of the cause. Thus developed romantic love which restrained egotism, and restraints on egotism constitute the basis of morality. A secondary "ego" was thus developed, which when stimulated by favoring conditions, began, by a process that Ribot has pointed out ("Diseases of the Personality"), to overwhelm and occupy the place of the primary "ego." The subjectivism of the primary to the secondary "ego," thus dominant became the acme of sexual gratification. "Metaphysical romances" and "metaphysical gallantry," are evidences of the power subjectivism gained under chivalry, and even now subjectivism (passivism) is somewhat unduly eulogized in fiction. The sexual teaching of Tolstoi are an expression of subjectivism. Gibbon ("Decline and Fall") brings forth no little evidence to show that passivism underlay the excessive desire for martyrdom of certain early Christians. Sir Walter Scott in his essays on "Chivalry" and "Romance," has portrayed many instances of passivism, either with subsequent sexual intercourse as a reward, or to find such satisfaction in the task itself. He cites the "Golden Thread," in which a page is described who opens his breast to deposit near his heart a golden thread given by his adored one. Here feticchism is associated with passivism.

1. Taine ("English Literature") has thus inimitably reproduced this scene, and commented thereon:

Antonio: "Nacky, Nacky, Nacky, how dost do, Nacky?"

"Hurry, durry, I am come, little Nacky."

"Past 11 o'clock, a late hour; time in all conscience to go to bed, Nacky."

"Nacky, did I say?" Ay, Nacky Aquilina, lina, lina, quilina, Aquilina, Naquilina, Acky, Nacky, Queen Nacky.

of an exhausted rake. Passivism has also found expression in art. Armand Sylvestre says anent Levy's "Circe" exhibited in the Salon of 1889:

The ecstasy of martyrdom is more intense than the blood lust of the sworn tormentor. Annihilation by the power of beauty is in itself a voluptuous ecstasy. Who envies not Anthony dying in the arms of Cleopatra, through whom his death had come?

Passivism and sadism, while extremes, touch. The first delights in receiving, the second in inflicting pain. One is the ecstasy of the martyr, the other pain voluptuary of the sworn tormentor. Tarnowsky¹ reports a case similar to Rousseau.

CASE I.—A father of family periodically quits his home to pass a certain time among prostitutes who, hired in advance, submit him to a pre-arranged programme of humiliations, flagellations and great physical violence.

"Come, let's to bed.

"You fubbs pug you.

"You little puss, purry durry, I am a senator."

Aquillina: "You are fool I am sure."

Antonio: "None the worse senator for that.

"Come, Nacky, let's have a game at romps.

"You won't set down? Then look you now.

"Suppose me a bull, a Bazan bull, bull of bulls or bull.

"Thus up I get and with my brows thus brent.

"I broo, I say I broo, I broo, broo.

"You won't sit, will you, I broo.

"Now I'll be a senator again, and thy little lover, Nicky-Nacky.

"Ah, toad, toad, toad, toad! spit in my face a little, Nacky.

"Spit in my face, prithe; spit in my face never so little.

"Spit but a little bit; spit, spit, spit.

"Spit when you are bid; do, prithe. Now, now, spit.

"What, you won't spit, will you? Then I'll be a dog."

Aquillina: "A dog, my lord?"

Antonio: "Be a dog. And I'll give you this purse to let me be a dog, and to use me like a dog a little

"Hurry, durry, I will. Well, here 'tis (gives purse).

"Now, bough, wough, wough, bough, wough."

Aquillina: "Hold, hold sir! If curs bite they must be kicked sir.

"Do you see, kick'd thus?"

Antonio: "Ay, with all my heart.

"Do kick on. Now I am under the table.

"Kick again, kick harder, harder yet.

"Odd, I'll have a snap at thy shins.

"Bough wough, wough, bough.

"Odd, she kicks bravely."

Taine concludes the scene by saying: "At last she lashes him with a whip soundly, and then turns him out. He will certainly return. He has spent a pleasant evening. He rubs his back, but he is amused."

1. "Die Krank. erschein des Geschlecht."

The phenomena of passivism are varied, but it may be divided into physical and moral passivism. Moral passivism consists essentially of humiliations and abasements before women. Here should be included the perverse tastes for female secretions; the *cunelungi stercoraires*, *renifleurs*, etc. I know a senile Russian, who visits a house of prostitution. After banqueting the girls, he has them expectorate into a goblet, whose contents he swallows with voluptuous ecstasy.

Passivism may accompany sexual inversion, in which case the loved object is a male, and the passivist becomes a bellator. Tardieu¹ and Luiz² have marvelously described this variety of passivism, whose greatest voluptuary consists in shameful, almost incredible humiliation.³ I have observed two instances of this type.

One, a Russian officer who lavished his foul caresses on young recruits, and the other a noble, who was equally caressing toward peasant boys. Physical passivism is evident in the case of Rousseau and in that cited from Tarnowsky. Dr. Cox,⁴ of Colorado, has reported a very marked case in point.

CASE 2.—A reputable father of a family is at stated periods a visitant of disreputable houses. He never cohabits with lewd women nor utters an immodest word, but in his own peculiar way he is a liberal patron of houses of prostitution. Here, early in the morning, he selects two or three of the largest prostitutes and repairs to a private room, where he divests himself of all his clothing *above* the waist. He then makes the girls trample over his naked chest, neck and face, taking care at each step to grind his flesh with the heels of their boots. This goes on for several hours.

Kiernan cites (ALIENIST AND NEUROLOGIST, April, 1891) a Chicago gynecologist who kisses the female genitals precedent to an examination.

Dr. G. Frank Lydston, of Chicago, has reported (*op.*

1. "Attentats sur les Mœurs."

2. "Mœurs de la Décadence."

3. Lydston describes ("Essays"), an Illinois surgeon, whose tendencies were of this kind.

4. ALIENIST AND NEUROLOGIST, 1883.

cit.) the case of a man who experiences singularly voluptuous sensations from violent kicks inflicted by a man on his genital region. He also calls attention to the fact that passivism underlies the desire of females for useless surgical procedures was preceded often by desire for male manipulation by physicians. The gynecologist is compelled to be on his guard against a not infrequent nymphomania, little suspected by those surrounding the patient, in which the woman develops fondness for gynecological manipulations. The subterfuges and devices of such patients to induce handling of the sexual organs on part of the physician are something remarkable. Perhaps the most frequent form of this is pretended retention of urine. Every disease will be complained of by such patients in their endeavors to obtain manipulations by gynecologists. Frequent gynecological manipulations having exhausted the sexual response, the surgical procedures are needed to secure an orgasm.

The following cases reported by Kiernan¹ are instances of this type:

The patient has "strong spells of secret love," when she smashes windows to feel "happy" from seeing the "blood run" from her cut fingers. These are evidently erotic attacks. She uses obscene language if she cannot smash glass and see the blood run.

The patient would hack herself all over with any sharp instrument she could lay her hands on—not for suicidal purpose. She experienced a fascinating pleasure whenever she drew blood.

The case of the eighteenth century physician,² who obtained sexual gratification from combing the hair of nude females, was of this type.

Facts of this kind prove that flagellation used by debauchees acts psychically and not physically. It has been claimed that flagellation increases the flow of blood to the buttocks, and thus develops an exaltation of the

1. ALIENIST AND NEUROLOGIST, April, 1891.

2. Medical Standard, August, 1892.

dorsal and crural nerves. In my opinion this excitation results by the idea alone of absolute subjection and dependence before an irate woman.¹ The passivist's will is abdicated for the benefit of the adored object. He desires to be her slave, her thing. He wishes for the vilest employment and desires lashes and blows at her hands. He gratifies himself by the purchase of prostitutes for this purpose, but his dream, his ideal is to find a female sadist who would torment him at her pleasure. The acme of happiness would be to find a Marquise de Sade who would find voluptuous enjoyment in his torment; he would abandon himself body and soul to her.² A German romancist, Socher Masoch, has represented the most perfect types of masochism. All his novels and tales depict diverse types of passivists. The most celebrated ("Fetters of Venus") depicts an elegant gentleman who becomes the lackey of a cruel mistress. He experiences peculiar volupty at the sight of a rival who has obtained the favor of his mistress. Far from being jealous he continues to receive blows and lashes, even from his rival, with a voluptuous mixture of pain and pleasure. Krafft-Ebing has entitled this perversion masochism. Without at all disparaging the discoveries of the Vienna alienist, it may be said that in so doing Krafft-Ebing has covered the name of the novelist with ignominy. In a letter to me Krafft-Ebing defends himself by the instance of Dalton and Daltonism. Dalton was affected with the optic disorder called after him, hence there is no parallel in the two cases.

I have preferred therefore to entitle this perversion passivism. The more that I was the first to call attention to it after Binet, who alluded to it, but in passing, in his excellent study of erotic fetchism. In 1888, in an address on "Tyrannism," before the Moscow Medico-Legal

1. This is too strongly put. Cases (which are corroborated by my own observation), in which lashing of the gluteal region has excited for the first time the sexual appetite, prove that in many instances there is a strong physical element.

2. This passivism has also been described in an American romance, "A Strange Manuscript, Found in a Copper Cylinder," in which separation is the marriage ceremony.

Society.¹ (Tyrannism, of which sadism is as an erotic variety, is a pathological cruelty.) In the resultant discussion I pointed out that the reverse of sadism, passivism existed.² In 1890, Krafft-Ebing published a reference to the subject.³ While therefore I do not pretend to rival in the slightest degree the eminent Vienna alienist, I cannot but think that for the sake of priority, and the reasons already given, my term, passivism, is preferable to that of Krafft-Ebing.

Passivism should not be confounded with the self-sacrifice of normal love. The pathological factor begins when the sacrifices are not made for the benefit of the loved one but to excite sensuality. The passivist is as a rule insensible to the happiness of the loved one. He loves no special woman.⁴ He seeks torture. He is happy when he finds a vile mercenary to play with him the debased comedy of passivism, and renders him a slave, a dog, a mere thing. Passivism may appear in sexual inversion, when the passivist becomes a "fellator."⁵

Binet⁶ believes that the explanation of passivism is to

1. *Arkhiv f. Psichiatric, Kowalewski*, 1891.

2. In the *Journal of Nervous and Mental Disease*, April, 1883, I wrote as follows: "The relation between religiosity, sexuality and mutilation have long been recognized by alienists. An aberrant tendency of this religio-sexual order finds expression in religious sects. This tendency to self-mutilation is one of the cardinal principles of the Skoptzki, a Russian sect. Examples of the kind of mutilation practiced by this sect are by no means infrequent among the religious insane. The *Archives de Neurologie*, September, 1882, reports the case of a tailor who removed both testicles with his finger-nails and perfectly recovered from the injury. In another case (Langenbeck's 'Archives') a sexo-religious lunatic opened his abdomen with a rusty penknife. Having recovered he removed first one testicle and then the other. It would appear that in certain cases lust, as remarked by Montaigne ('Essays'), finds zest and stimulation in pain. This seeking for pain as stimulus is, it is by no means improbable, an atavism, since certain animals cannot copulate without pain. In most religio-sexual lunatics the mutilation is referred to remorse or a desire to avoid temptation; but, in many cases, the most probable explanation is that just given from Montaigne."

3. "Psychopathia Sexualis."

4. This is somewhat inconsistent with Stefanowski's previous declaration that the ideal of the passivist is a female sadist. Her happiness lies in inflicting pain. Hence, in desiring her, the passivist seeks an ideal, as does the ordinary lover.

5. The "fellator" is the "bote" of Dr. A. B. Holder (*N. Y. Med. Jour.*, 1890), whose procedure is to take the male organ of the active party between his lips and thereupon to experience the orgasm. These "botes" are common among the Indians of the N. W. United States.

6. "Etudes de Psychologie." (See also Klerman, *Periscope of Jour. of Nerv. and Ment. Dis.*, January, 1883.)

be found in the association of ideas and sentiments. But this explanation, which clears up erotic fetichism, fails to elucidate passivism, since it has been shown that such perversions may appear in youth, without sexual associations. The explanation of Krafft-Ebing that passivism is but a pathological exaggeration of the female character, is in the right direction, but the learned alienist has not taken into sufficient account the rôle of psychical heredity in morbid love. The combat between males, and the court paid to females, furnish the explanation of passivism. Sadism¹ may be regarded as having its origin in the combat, for the female, and passivism as a pathological exaggeration of the court paid the female to gain her favor. According to the sagacious remark of Tillier, combat, and the court which accompanies, follows or precedes it, have for end and result, in the animals which wish to couple (and in man also), a sexual excitation favorable to fecundation. Here is to be found the solution of the enigma.

1. The explanation of sadism given in the April, 1891, ALIENIST AND NEUROLOGIST better suits the requirements of the case.

A CASE OF SIMULATED INSANITY.*

By Prof. ARRIGO TAMASSIA.

A PARADOXICAL phrase of Ventriguier, according to whom, he who simulates insanity, if he be not insane is on the point of becoming so, has been received with the utmost deference by alienists and experts; and in every prosecution in which there may be any doubt as to simulation of insanity this phrase recurs and tends to weaken the judgment, even though this be reinforced by positive proof. We do not deny that there are lunatics, in the classic sense of that word, or candidates for insanity, who by their egotistic views or by the evolution itself of their mental change, tend to magnify and to present radical changes in their mental state. We concede also that the act of simulation, at a given time, constitutes the prelude of insanity, under the form of an elementary impulsive idea which will develop itself later as a true systematized delirium, or perhaps, what is less frequent, as melancholia. But granting this, we must add that in these cases the criminal act (let us call it so) after which the morbid tendency to simulation can arise, must bear in itself some suspicious appearance; when, as is not rarely the case, the illegal action for which the insanity would serve as the excuse is not lacking; and at this time we have an isolated perversion of consciousness which will form a case for psychiatric investigation, but not for the magistrate or expert. But between this theoretical admission and Ventriguier's thesis there is a wide abyss. To affirm that simulation of insanity induces of itself suspicion of the integrity of the mind is in contradiction to the daily data furnished by forensic practice. There are, that is to say,

* Translated from the *Revista Sperimentale* of April 15th, 1892, by Susanna P. Boyle, M. D., C. M., Demonstrator of Anatomy and Lecturer in Histology, Toronto Woman's Medical College; Physician to the Girls' Home, Toronto.

persons of perfectly normal intelligence, perhaps even more solid and acute than the common average, who, in view of some gain or punishment concentrate all their energies to make it appear that they are insane. Memory, reading, imitation and a certain cleverness of invention supply the web and fashion of the simulatory mechanism; and if they meet with myopic or sympathetic experts they succeed, like clever artists, in making these pity them and in throwing open the prison doors. Every one of us, I say, must have met with some of these unhappy schemers on whom there certainly rested no shadow of insanity. The recent statistics of Fürstner, for example, prove their number sufficiently large and enjoin the expert, before plunging into Ventriguier's pessimism, to study, patiently and conscientiously, the strange symptoms which are arrayed before him. Fürstner reports Bingswanger's data, according to which, out of seventy-three suspects twenty-one were recognized as pretenders, and the others as insane, and reports his own cases in the Heidelberg clinic where, out of thirty-one cases subjected to judicial examination, twelve were recognized as pretenders. These statistics show very clearly that among those whose mental state was dubious, some were recognized as common lunatics who were not feigning, and some as sane who were simulating.

I, myself, in a forensic practice neither very long nor extensive, have met with several simulators who in the end were totally unmasked and brought back to their true psychic condition—that of perfectly sane, sharp persons who, in insanity, had discovered a way of escape from the hands of justice.

A second case was that of a youth of distinguished family, accustomed to the comforts of life, who had grown up idle and useless, and who, being short of money, defrauded a bank by counterfeiting notes and forging signatures and documents. Convicted of fraud he had recourse to simulation of insanity, affecting loss of memory and incoherence, and later on, by performing impulsive and

senseless acts. But after a long period of tireless surveillance he became convinced of the uselessness of his efforts and one day asked us (the experts) what we thought of his insanity? We answered that we thought what he thought of it, and recommended him not to carry the comedy further. And, in fact, the next day the play ended, and he spoke no more of insanity, not even on the day of trial.

A third case was given me to study in a young man, also of good family, who, in his early years, had been most promising. Of well-balanced and tenacious mind, and cool-headed, he perhaps did not find in the affections of his family that wave of sentiment which could have softened his instinctive tendencies. Entangled in the snares of a dangerous companion and led away by the perfidious suggestions of a friend, he forgot his duties and gave himself up to a life of wicked devices, to which he put the crowning touch by breaking into a safe in broad daylight and stealing a thousand liras. The proofs of his crime were only too positive, and there was only left for him the pity of the jury or the rigor of the law. He tried to evade the latter by feigning insanity; and this he did by maintaining an absolute silence in the first days; later, by using a language consisting of incoherent monosyllables, and to this he added as a sign of insanity, absolute amnesia of the circumstances in connection with his charge and every other period of his preceding life. His somewhat high degree of culture, the patient tenacity of purpose which had been strengthened by the long sufferings he had experienced, and the counsels given him in prison by his friends made it at first rather difficult for us to form an opinion. But finally, excluding in the most positive manner every sign of disease from the presumed amnesia, which showed that it was not general but voluntary and assumed only so as to be turned to his advantage, we persuaded him to abandon a system of defense which, in the end, could only damage his cause, especially in view of the impressions of the jury concerning him. He did not confess that he

had simulated, but in the succeeding days memory and intelligence reawakened in him as if by magic. At the assizes he was taciturn but defended himself as best he could, and earnestly, Insanity was not spoken of except where it had to be mentioned in reading the expert's report, which reduced to its true value that part of his defense.

The present case rationally connects itself with the two preceding, and shows the brightness and sharpness of mind of simulatory subjects, who are without the slightest suspicion of insanity, or of even a morbid, passing mental alteration. As will be seen, it concerned a woman well-known in her own district as given to thieving, and to receiving stolen goods, who was a little despised for her immorality, and a little feared for her audacious thieving. She was charged with burning her house the day before the payment of the insurance premium. The day before the fire she had carried away some articles having a certain value, and these she had providently placed in a pawn shop. She had pre-arranged an *alibi* at the time of the fire, and called together a number of witnesses, who said unhesitatingly that the granary was burned on account of soot. Certainly the fire broke out at a time foreseen by her. All the neighbors collected to extinguish it. She was away as if she knew nothing of it, and when she reached the scene of the disaster was indifferent, and opposed the proposition to open and empty the chests of drawers, which were about to be devoured by the flames. But the neighbors, more anxious than she, ran and opened the drawers, which to the general surprise, were found literally empty! More—in the confusion of the fire there happened something she had not foreseen. The neighbors, on breaking into the house, found, hidden here and there, many articles which until now they had supposed lost or stolen. Then pity was changed grotesquely to anger, and the chorus of poor women who now saw again their hoes, their hoods and their pails, fastened upon her

the reputation which she already held, of being a thief. On being arrested she justified herself in her first examination, by serious arguments, deduced from judicial and from personal circumstances, and no one perceived that she fell in a fit, or suffered from mental disturbances. But, on being transported from the jail to the court-house she had attacks of mania, convulsions and held incoherent discourses. When her trial came on, the defense, by means of two experts, and by making deductions from current reports, obtained a suspension of the trial. The court granted this, but entrusted the study of the mental state of the accused to me, and to Dr. Alessio. It was therefore at this period that there were instituted the observations and researches collected in the present report, which are agreed to and confirmed by my distinguished colleague. I present it here, omitting prefatory remarks and names of places and persons, which in a purely scientific domain would be out of place. If, before presenting the results of our studies on the prisoner, we stop to note the data concerning her mental state before the thefts charged to her and before the fire, we see that in the law-suit there were noted neither psychical nor merely nervous diseases. Witnesses who had known the prisoner for many years denied that she had undergone any mental change whatever, and the physician who had treated her for articular rheumatism, did not know that she suffered, or had suffered from epilepsy; on the other hand he described her as a "sharp woman," always ready to magnify her own sufferings, and always of perfectly sound mind. And in this absolutely negative manner with regard to hereditary or acquired predisposition, the municipal authorities, who had been appointed by us to inquire into the case, made reply. And since at the assizes some witnesses deposed concerning certain generic symptoms (pallor, falling to the ground, and surprised look), which justly gave an opportunity to the defense to demand a careful study of the prisoner's mental condition, we, at the instance of the

magistrate, examined the witnesses, and all those persons who were in a position to give exact details and particulars regarding the malady, which had been vaguely mentioned at the assizes. The answers of these witnesses, which were at once written down, quieted, however, every suspicion, since none of them referred to a single symptom worthy of being received, as an index of an epileptic or epileptoid state. One witness only spoke of a convulsion, to which she attached no importance as "a woman's convulsion," noticing that during the fit the woman could reason correctly; another said that during 1875, she saw her fall motionless to the ground, but did not know whether in a faint or otherwise, but without any of the common signs of epilepsy or suffering, and a woman, who was finally brought forward by the defense, and who had assisted the prisoner, knew nothing of epilepsy or like phenomena; many years before she had found her sitting still, and she said she did not feel well.

But these symptoms were too isolated, too indeterminate, to be reasonably assigned by themselves as indications of epilepsy. A great variety of diseases or ailments could have produced them, and if they had really had the fundamental characters of true epileptic disorders they would have been renewed, and have awakened misgivings in the woman herself, in the neighbors and the attending physician. We are then authorized to conclude that the woman, at her entrance to the prison, had never suffered from epileptic phenomena, and that neither from this nor any other cause, had there been any disturbances in her intellectual faculties. Indeed all the witnesses agree in describing the prisoner as a sharp, clear-sighted woman. Of physical maladies worthy of mention, the prisoner has had ear-disease (otitis) and articular rheumatism, but of the latter she is cured, and from the former there remained (she says and it may be admitted) a certain dullness of hearing.

The prisoner entered jail the 27th of June and remained there till the 21st of July, without giving any

sign that would lead one to suspect her mental integrity. The jailer, his wife and a fellow-prisoner described her as quiet, speaking sensibly and complaining of a bad appetite, and of being detained as an incendiary. And the jail surgeon heard her complain of want of appetite and constipation. She answered sensibly, and did not act in such a way as to make him think her mind affected, nor did she ever mention to him that she was subject to fits.

But on the 21st of July she was removed to the court-house, and there began to show symptoms which attracted the attention of those around her. Thus, a fellow-prisoner said that the woman showed but a small amount of intelligence, jumped from one subject to another, adding that this went on for fifteen days. Another prisoner testified that she ran here and there "as if she had wings," and that she had little sense, and another, that she screamed and shook her arms and feet. One of the Sisters testified that she had been subject from time to time to epileptic fits, sometimes every fifteen days, and also at shorter intervals without any precursory signs, and that she gave a cry and rolled on the ground for fifteen minutes. Another Sister said about the same, admitting however, that the fit was protracted for two hours instead of lasting fifteen minutes, as the last witness asserted. There must not pass unobserved the declaration of a fellow-prisoner, who said that other fits occurred every eight to ten days; some hours before these, she said, she complains of a sense of constriction over the stomach, and yesterday fell all at once (said the prisoner) and lay with her arms extended for a quarter of an hour. For about a day she remained depressed.

The jail surgeon confined himself to collecting and reporting the facts which he had heard from the Sisters and prisoners, but declared that he never saw any fits, and that he prescribed bromide of soda for her. Hence the diagnosis of "epileptic fits" is altogether empiric and depended for its origin on one of the Sisters. Until now

no exact scientific observations have ever been made on these pretended fits and without these it would be reprehensible audacity to pronounce them morbid or even of an altogether voluntary, that is simulated, character. It is certain, however, that their appearance in a subject, previously healthy, and who had just entered the courthouse, their special character (spastic contractions), their unusual duration (one-quarter to two hours), threw a certain shade of doubt of simulation on them; but a doubt whose origin is in simple information must not be regarded as a proof.

Bringing to our task then the greatest impartiality of judgment and fore-armed against every attempt at simulation we undertook a personal study of the prisoner and from this only can we attain positive results.

The physical examination showed nothing remarkable. General constitution as good as is usual at 48 years of age, tissues a little flaccid and pallid, cranium well formed without asymmetry in its bones or those of the face, vision good her age being considered, pupil normally dilated and mobile, tongue prompt and regular in its movements (with the exception of later phenomena) and without cicatrices at the side, hearing slightly dull, pulse somewhat small, always regular (75), heart normal, sleep regular, appetite keen, gait normal, lies in bed many hours every day to keep herself warm she says. General sensibility, experimented on at first with points and small pieces of paper, normal on both sides of the body as regards promptitude of perception and locality of the excited part. Thermogenesis regular.

Psychical Examination.—In the first days of our examination we found her preoccupied and almost always in tears. Now she complained of pricking pains round her heart. Now of her fingers, and more especially of her thumb being pricked. But not concerning ourselves with these symptoms, beyond giving a little medical advice, on inquiring about her trial, her past life and the thefts of which she had been accused, we found her not only

coherent but cautious and prudent in her answers. In so far her memory had undergone not the slightest weakening. Asking her to speak of past events and pitying her for her sufferings, we were able to obtain the most minute details regarding her husband, his death, her married life, her children and domestic affairs; circumstances which were quite in harmony with the history brought forward at the trial. But whenever we inquired into the cause of her arrest, she interrupted herself, paused before replying and responded in an evasive manner, ascribing the fire either to the malignity of others or to a fatality. The fire could have originated from the combustion of the soot in the chimney and she promptly added that she had warned the brick-layer that the flues should be cleaned. The vessel containing oil had been placed there many years before by her poor husband, the objects which she had carried to the pawnbrokers were taken there in order to obtain money to buy leaves for her silk-worms; the things which had the appearance of *res furtiva* had been brought by the neighbors unknown to her, and so on. To sum up, she continued, with brief interruptions, in many conversations, not always answering sensibly, to interpret in her favor every circumstance which we mentioned or placed before her. Never the slightest incoherence, always on the other hand a noticeable slowness of response, a great desire to say something in her defense and to twist to her own advantage every argument which she felt to be hostile to her.

But with this apparent apathy there was always a vigilance to prevent any damaging surprise. Thus, for example one day, not because we did not understand her dialect, but in order better to catch her shades of thought, we desired that there should be present at our examination a prison-guard, who, being from her own part of the country, would have been able to act as interpreter. Now, she, who was prompt enough to answer us alone, refused with premeditated obstinacy to respond to the questions translated by the guard, and putting an

end to every inquiry which she deemed too deep or suspicious by a fit of anger (very calm, however) she interrupted the conversation and in a state of semi-bewilderment bade the guard in insulting terms to go away. Another time she was complaining to us of insomnia, when a fellow-prisoner interrupted her and said that she slept quietly all night, she flew angrily at her; and on still another day when she was telling me that she positively could not eat, the same prisoner broke in and contradicted her, bringing up the rapidity with which she devoured her food. The pretended epileptic interrupted her with the greatest vehemence and apostrophized her in these words which, in our opinion, had a note-worthy significance: "Hold your tongue for once; why do you always want to do harm to people?"

All these facts and many similar ones showed how that slowness of perception and ideation which together formed the one suspicious note in the mental state of the prisoner, might have been carefully studied with the idea of reaching some of the vulgar features of hebetude, since they were lost immediately when interest was excited or some particular view of the examiner required it. Her family and religious feelings were sufficiently vigorous and natural. She spoke of her dead husband, told how he sent her seventy to eighty liras every two months, described in words touching and full of emotion the day on which the priest came to announce to her his death, "poor good man." At these times sentiment breaks down all the barriers of prudence and caution and permits a certain amount of affectionate eloquence! Perhaps however, she considers that she can overflow in words and tears here without injuring herself, not seeing any connection between the death of her husband and child and the charge on which she is detained. Of recent events she preserves an accurate remembrance and forms a correct judgment of them. For example, we asked her if she received letters from her brother and she told us the contents, showed us the letter, explaining the

particulars, the financial condition of her brother, etc., etc. And this we made her repeat two or three days afterwards. Equally well she remembers the day and hour on which both, or one, or the other of us experts visited her, and this also on those days when there should have been the psychical bewilderment due to one of her fits. With a certain perfectly spontaneous and minute eloquence she describes her own sufferings. One day she complains of pricking in the finger-tips, another in the region of the heart, another in the ears and another the toes, and when, as is our duty, we endeavor to gain her confidence, sympathizing with her and affecting to believe good-naturedly all that she has been enumerating, she increases every day those ailments on the prevalence of which it pleases her to beguile her time. But when we interrupt our suavity and brusquely inquire into some serious point in connection with her charge, then she recollects herself, pretends not to understand and, with a kind of sigh or groan as if of unexpected sorrow, endeavors to avoid or hinder our questions.

The suspicion having thus entered our minds that besides the fits (of which we shall speak more hereafter), she might simulate these altogether subjective disturbances, we had recourse to the expedient of asking her if by chance she had pain in any given part of the body, if she had a sense of heat in the edge of the pinna of the ear, or if she had acute pain involving the left clavicle, adding in a low tone that these phenomena were never absent in a given disease? She replied immediately, positively and enthusiastically, and the day after she was the first to inform us that she had felt and was feeling a very strong sensation of heat, of pain in the clavicle, etc.; etc. Convinced by these facts of simulation we asked with increasing boldness if by accident she had ever suffered from strong trembling of the right arm, or if she had ever noticed her tongue deviating to the left. This we asked with the greatest seriousness, giving in popular parlance, some apparent physiological

cause for such phenomena and charging the women prisoners to watch carefully if "that poor woman" should show these symptoms which were "true signs of grave disease of the brain."

The next morning the women told us that the prisoner, during the night, had shaken her right arm tremulously and that she had protruded her tongue to the left with some ostentation! On questioning her she answered as usual; but on asking to feel the pulse on the right arm, the hand and arm shook strongly, while the left arm was extended quite motionless. And later when we asked her to put out her tongue, she protruded it turned so awkwardly to the left as to show most clearly the intensity of the force required to maintain it in so inconvenient a position. And still later when we asked her suddenly to put out her right arm, she stretched it out at first quite motionless, but, quickly correcting herself, began to make it tremble. And these phenomena were constantly present on the succeeding days.

It is not necessary to demonstrate that the pretended symptoms presented by the prisoner constituted a positive proof of simulation, she having thought them signs of a serious malady.

Similarly another day, speaking to each other and to some of the prisoners (in such a way as to be overheard by the woman), we made the remark that we wondered that she had not presented that characteristic symptom of St. Valentine's disease (falling sickness), viz., raising the great toe of the left foot on compression of a given point (near the spinous process of the second or third cervical vertebra) at the back of the neck. This was a new suggestion which we threw out to catch the ever-watchful attention of the prisoner.

The next morning, besides the usual simulated phenomena of which we have just spoken, she presented also the one we wished for, since on touching the point indicated or other neighboring parts, the great toe of the left foot was seen to rise, and the cover of the bed

moved repeatedly with the rhythmic extension of the foot; and these movements of raising and lowering stopped only when we ceased compressing the given place on the neck! This was a valuable proof, and added to the others, contributed largely to settle the diagnosis.

We had now so large a supply of proofs of simulation that we prepared ourselves to study the nature and clinical character of those "fits" which had given rise to the present inquiry and which formed the pivot on which turned the allegations concerning the prisoner's mental alteration.

We have already remarked that the collection of symptoms characterized first by one of the Sisters and also, perhaps, by some of the witnesses at the assizes, as *epileptic*, clinically interpreted, merited quite a different designation. For it is certain that had they really been of an epileptic nature the whole system of the prisoner would have been affected to some extent, and she would have presented at least some of the degenerative elements which are present in such persistent nervous diseases, namely, irritability, extreme religiosity, a melancholic tinge, change in the affections, etc.; symptoms which we have absolutely never ascertained in her, nor had they ever been mentioned by the many witnesses who were gathered together. But, making allowance for this lack of clinical harmony, we must inform ourselves by direct observation of these fits.

The prisoner had one immediately on entering the court-house, where we are examining her, and frightened her fellow-prisoners and the guards not a little. They came on at night, it was said, and lasted one, two, or four hours. One of the more intelligent of the prisoners who had been present gave us the following description, which we transcribe literally: "She was stretched out on the bed, tried to jump out but did not do so; then she lay face downward on the bed, shaking her arms and fingers violently and raising her head from time to time; then she rose and turned herself in the bed, shaking her arms

and fingers again. She recognized everyone perfectly and besides this drank water several times during the fit. This state of agitation lasted for half-an-hour, when there was a calm and then it began over again." Everyone who had seen her in the first days agreed with this description and they all testified that, after a very short time, she became quiet and had so voracious an appetite "that she would have eaten nails."

So, without seeing the fit, one was in a position to deny, *a priori*, that it was of an epileptic character, as it lacked the sudden fall, cyanosis, the sad bewilderment afterwards and unconsciousness during it, besides amnesia or semi-amnesia after it. Indubitably the woman was conscious during the convulsion, as she recognized those about her, and drank. All then was reduced to a disordered movement of the limbs.

Convinced then that, as in the milder preceding phenomena, so in these which were apparently more serious we had to deal with absolutely voluntary, and therefore, simulated actions, and sympathizing with her on her convulsive condition, which we naturally admitted to be that most serious disease, St. Valentine's, we asked her if she could remember at what time she was attacked, the persons who were present, and whether or not she drank during the fit. She always told the exact time, pointed out those who were present, and remembered drinking twice. Evidently we had proof of the presence of consciousness, in the remembrance of what occurred not only during the fit, but also on coming out of it; which is contrary to the nature of a true epileptic fit.

Another day we asked her and her fellow-prisoners if, during the fit, her tongue did not turn to the left, and if there had not been some attempt at vomiting immediately after drinking. The next day we were notified that in a fit of the evening before, her tongue was continually protruded to the left side, and immediately on drinking she made repeated efforts at vomiting. Still keeping up our artifices we expressed surprise to each other in a low

tone that she never contracted her fingers like claws, "as this is always present in St. Valentine's disease." We were not surprised to hear that a few hours after our departure, in one of her usual fits, besides the phenomena already suggested to her (tongue to left, vomiting, etc.), she had her fingers bent like claws.

Showing always the greater credulity and most affectionate sympathy we ask again after some days if all those present had ever heard that strong, semi-metallic cry, which accompanies only an epileptic seizure; and one of us raised a most shrill, sharp cry, not at all resembling the preaccessual cry of epilepsy. And in the next fit, and those following it, we were not surprised to hear that there led off the troop of symptoms this strident, metallic cry, which she naturally apprehended to be and received as, the principal sign of epilepsy.

But still we had had no opportunity of verifying with our own eyes, one of those convulsions, which the prisoner would have us believe occurred almost always in the night, when none of the custodians could be informed. One day however, one of us, examining her with our usual credulity, remarked, as if alarmed, that we were afraid a fit was imminent. But just then, in response to a sudden (pre-arranged) call we left the room, adding that we would return within a quarter of an hour and recommending careful watchfulness "for that poor woman may do herself harm in the convulsion." After a quarter of an hour the expert returns and finds the woman in the midst of a convulsion. Her arms extended, her fingers forming claws, her breast agitated, and her knees shaking; then she put the thumb of one of her hands to her mouth as if to bite it. While doing this the tension of the muscles was lost. Then there was a slight pause and it began again. This was followed by a succession of spasms and pauses, which lasted for twenty minutes, and during this period, the pulse was normal, the respiratory rhythm not at all changed, and there was no cyanosis or pallor of the face. Consciousness

was always present, so much so that during the most violent contractions of the limbs, when she was ordered to protrude her tongue, she did so, turning it to the left, and likewise on pressing the usual point on her neck, the great toe of the left foot was seen to move immediately.

Another day (and now we could see them when we wished), while we were on the point of leaving, she presented a new fit. One of us, compassionate as usual, said to the other: "But that which is peculiar to this poor woman's disease is that, while the left arm is stiff and rigid as a log, the right is as limp as a rag." And on touching the right arm during the fit, it was found flaccid, and inert, while the left, stiff as a board, opposed strong resistance to all efforts to flex it. It is unnecessary to say that simulation was clearly proved, the woman having treasured up those symptoms, which she could voluntarily call forth, and which she regarded as being to her advantage. And we do not need to add that, neither immediately after, nor after some hours, was there the least trace of psychical disturbance, of confusion, or dullness. To make certain that the pretended fits consisted only of awkward muscular contractions, voluntarily provoked, and always keeping with regard to the prisoner, the attitude of people who were convinced of her illness, we advanced still further, and inquired with all a physician's gravity "if it were a fact that compressing the spinal cord at the base of the neck provoked a fit;" and made her understand that, the spinal cord being diseased, there was danger of producing a serious epileptic fit on pressing over the cervical vertebræ. So, after recommending the women prisoners to look after her well, and to have a little water ready, one of us gently pressed on a point at the base of the neck, corresponding to the spinous process of the seventh cervical vertebra. At once she was attacked by one of her well-known fits, in which were not absent the fictitious symptoms of deviation of the tongue to the left, movement of the

great toe of the left foot, and flaccidity of the right arm and rigidity of the left. This was surely a most positive proof of simulation; for, having convinced the woman that it was only necessary to touch that part of her neck to cause a fit, we were able at our pleasure to bring on one at any time, and thus make ourselves absolutely certain of their voluntary origin.

Two other experiments we wished to make, which, on the one hand it may be will have no importance, but on the other, may furnish proof of simulation.

We said one day to each other, before the woman, that, in the diseased state in which she was there was generally loss of the faculty to distinguish tastes, and cited, apropos of this, some imaginary cases in which an insane epileptic had eaten salt and maintained that it was sugar. We had prepared beforehand two equal-sized powders, one of sugar and one of quinine, the latter of which we had tasted and found to be very bitter. Having made these suggestive remarks we asked her, after a few minutes, to put out her tongue. She did so, but not remembering that she should turn it to the left, at first protruded it quite straight and then bent it forcibly to the left. We sprinkled a good pinch of sugar on it and asked her if she felt any taste. "None," she said, "none at all." In a few minutes we again asked her to protrude her tongue, and, without allowing any change of powders to be seen, we placed on it a pinch of quinine. "What taste has that?" we asked. "None," she said, a little disconcerted, but forcing herself to show no suspicion of the disagreeable sensation, and after a few seconds she recovered herself completely and added impassively, "It is good." No more positive proof of simulation could be wished. Not only did she deny tasting the bitter quinine and endeavor at the same time to so control the expression of her face as not to allow her feelings to appear, but, on the other hand, she wished to make us believe there was no sensation of sweetness.

The other experiment had a physiological basis, and

depends on a fact which has been frequently observed, viz., that the pupil enlarges under the influence of pain. Very well. We convinced the woman that the right arm ought not to feel pain even if pinched very hard, while on the left the slightest touch would be felt immediately and severely. We then pinched the soft tissues of the right fore-arm with a good deal of strength. She remained quiet and said she felt no pain of any kind, but the pupil by dilating widely, showed the presence of a pain by no means slight. On the other hand, we had scarcely touched the skin of the left arm when she became frenzied, complaining of intense pain, while the immobility of the pupil proclaimed that there was no suffering whatever.

From these examinations we gave our final judgment. The absence of historic data, the sudden origin of convulsive symptoms in the court-house, and the foresight exhibited in her actions had made us doubt at once the clinical reality of any true mental disease whatever, and more especially of epilepsy. But the facts we had collected, and the experiments repeatedly made authorized us to pronounce that the convulsive symptoms, as well as the other merely psychical phenomena (incoherence) presented by the prisoner had no morbid foundation but were instead altogether simulated.

And if we now take into consideration those "convulsive" phenomena manifested by the prisoner in the court-house and those which were described by the Sisters and prisoners, and synthetically by the jail surgeon, we have more than sufficient testimony to prove, that between those observed by us and the first ones, there was the strictest analogy, or rather they were identical. The woman rolled on the ground or bed for a longer or shorter time, and contracted the muscles of the limbs more or less as we had seen her. She herself declared that she had suffered from the disease for many years. She avoided falling in a fit where the jail surgeon could see her, fearing that the awkwardness of her attempt

would undeceive him. If she had really had epilepsy with its subsequent stupor, confusion and true maniacal attacks, and if there had been present in her any of the psychical phenomena (cyanosis state of the pupils, eventual wounding of the tongue and limbs), which, with a certain degree of constancy, follow epileptic fits, the physician would not have failed to notice it, treat it and point it out. Instead of this he confined himself to designating the convulsions as of a nervous character, adding that he had never seen any and that he spoke entirely from information obtained from those surrounding the supposed patient.

- Having satisfied ourselves that these apparently morbid phenomena were mere pretences, we concluded from this that the prisoner's mind appeared to have been normal at the time of the thefts, and fire, and at the time of our making the report, and that we judge her in condition to be regarded as in sound mental health at the trial.

With these positive proofs of simulation we regarded it as superfluous to institute indirect somatic investigation, such as examination of the visual field or variations in general sensibility (Agostini). The collection of facts was too harmonious and too eloquent. The pretended invalid was so thoroughly persuaded that she had succeeded in her little game that she confided to some of her companions in detention that she was to be liberated permanently as "an invalid." Lulled by this hope, when she saw no more of us, she showed not the slightest sign of insanity or convulsions and allowed herself to be transported quietly to the jail, from which she had been taken, but instead of being set at liberty as she had promised herself, she was brought to public trial.

On being called there to confirm our written report we hoped not to have been confronted by experts for the defense. Vain illusion! we found two. The one without bringing forward any positive arguments wished to prove, without ever having seen the pretended patient, that, among those fits so thoroughly recognized by us as

simulated, some might have been epileptic; and we spent but a short time in answering him. The other, while agreeing to the simulation of all the psychic disorders, advanced the argument that the woman *being already epileptic*, might have simulated other fits in order to turn them to her advantage. But he delivered this opinion mildly and with all due deference to us who had for such a length of time observed the accused, and did not gratuitously pretend to weaken our decision by four airy arguments as his colleague had done. We reminded him that, both in our written report, to which we have referred, and in the oral testimony made by us with the greatest impartiality at the trial, we had been able to exclude every sign of epilepsy from the prisoner; while on the other hand all the circumstances conduced to the diagnosis of awkward simulation. There was, therefore, no basis for his suspicions.

But a new and important argument was convincingly presented to us, to the jury and to her own defense by the conduct of the accused at the trial. No more hesitation, no reticence, no tremors, no convulsions. Her voice became sonorous and vibrating and she met every hostile argument with reasoning full of good sense, exact remembrance and having every appearance of truth. Charges poured on her from all sides; she fought them off vigorously and with promptitude of resource, and when she was being overcome, had recourse to personal invective, to saying people hated her, or (the last resource of every unfortunate) she answered shortly that she could not remember. No one would recognize in that bold fighter who combated for nearly three days the angry attacks of so many hostile witnesses, the poor, shrunken old woman, sleepy and stupid, who dragged sadly through the time of our examination. The defense could no longer oppose any doubt as to simulation, but, cleverly detaching themselves from their experts, and depending entirely on judicial reasons and facts, they employed themselves in lessening the heinousness of the crime with

which their client was charged. The jury, denying any psychical disturbance whatever, gave as a verdict that, exculpating her from the charge of fraudulent incendiari-ism, they held her responsible for the thefts and inflicted a light punishment.

At the present time she is suffering this. We give our pledge however, that if that woman ever returns to any new games, epilepsy will not be the saving saint invoked by her.

A CASE OF CEREBRAL SYPHILIS.

By FRANK C. HOYT, M. D., St. Joseph, Mo.,

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A FEMALE (A. W.), white, age about 30, supposed to have been a prostitute, was admitted from the county poor-house in December, 1890. Her history was meager, but she was said to have been insane since 1888, her insanity being attributed to a blow on the head received during a melee in a Leadville dance-house. At time of admission she was rather stupid, but when interrogated sharply she seemed to understand the questions asked her and attempted to answer, the result of her effort being a meaningless mumble. Being a woman of no education it was not possible to test her ability to write. There was incomplete hemiparesis of right side of face, right leg and arm. Her hearing did not seem to be impaired and an ophthalmoscopic examination showed nothing abnormal. At the vertex of her skull, at a point midway between the auriculo-bregmatic line and the posterior end of the fissure of Rolando, as determined by Fere's lines, was a white, stellate cicatrix, the size of a silver quarter-dollar, and an evident depression of bone, the depression and center of cicatrix being slightly to the left of the median line.

It was thought best, in view of the fact that the patient had been a woman of loose habits, to give her specific treatment. This was carried out for some months, but without any perceptible effect.

Her physical condition remained about stationary for some months, the aphasia persisting and the hemiplegia growing no worse, locomotion being possible by dragging the right limb. Mentally, she was unusually dull and stupid, but occasionally she would have attacks of

hysterical crying, during which she was uncontrollable. At such times she would put her hand to her head, nodding affirmatively when asked if her head ached.

The history of an injury and the presence of a cicatrix with depression of bone, justified the belief that the skull had been fractured and that pressure was being exerted upon the motor centers for the leg, arm and face, by depressed bone or a localized traumatic meningitis. The case seemed one which in every way called for surgical interference and it was decided to trephine at the site of the injury and over the central convolutions. Before the operation was performed, the patient became ill with some intercurrent affection and the operation was deferred until her physical condition improved.

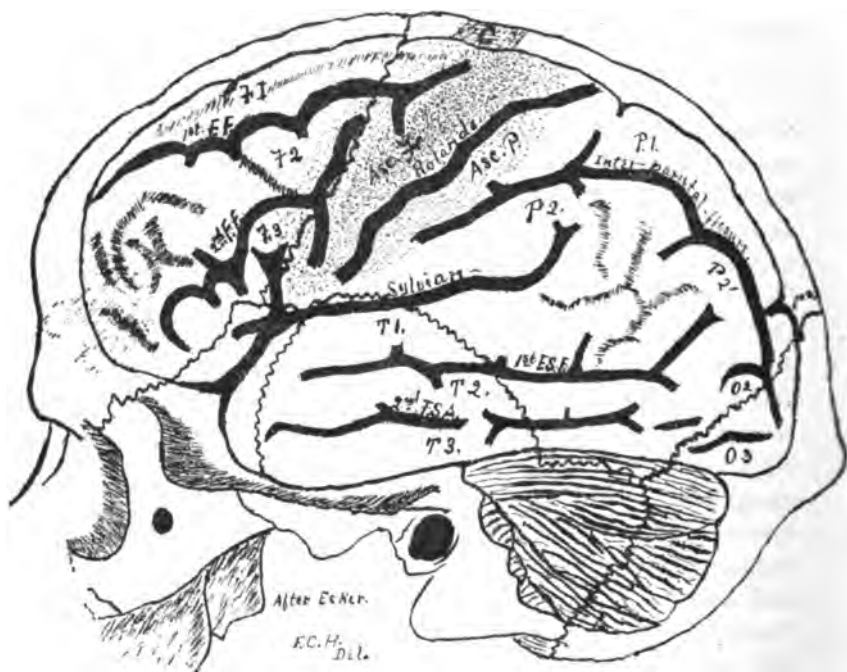
She, however, grew worse both mentally and physically, becoming more stupid and irritable; the hemiplegia became complete, and after being in coma for eighteen hours she died, eight months after admission.

Section-cadaveris seven hours after death.—The scalp was carefully dissected at the site of the cicatrix, but not the slightest evidence of injury to the bone could be detected, the apparent depression being due entirely to the contraction and adhesion of the cicatricial tissue to the periosteum. The periosteum was noticed to be generally loose and easily detached from the bone, in many places separating without the slightest force being used. The skull was of average size and symmetrical. The calvarium was removed and was found to be unusually thick and soft, the cancellous tissue being abundant, very soft and bleeding freely. The internal surface at the site of the supposed fracture presented no sign of injury. The dura mater was densely adherent to the calvarium, being detached with great difficulty, especially over the left hemisphere. After removal of the calvarium the dura mater covering the two hemispheres was seen to differ very much in appearance. That over the right hemisphere was very little thicker than normal while that of the left was opaque, fibrous and enormously thickened.

The entire dura of this side, including the falx and tentorium was extensively diseased, being in some places one-half inch in thickness. The inner surface was softened, rough and numerous spots of hemorrhagic pigmentation were observed. Very little adhesion was found between the dura and the pia-arachnoid of the right side, while on the left the membranes were so intimately united as to render it impossible to separate them without laceration. The longitudinal sinus was encroached upon by the disease of the walls so that its caliber was very much diminished.

The pia-arachnoid of the right side was injected, its vessels distended and several small hemorrhages were noticed over the frontal lobe. In the same location numerous patches of infiltration and opacities were seen, and the membrane was adherent to the cortex. Over the left hemisphere this membrane was more generally involved, being closely adherent to the dura above and the cortex cerebri below. Its vessels were distended, pouched and tortuous, while the membrane was thickened and opaque throughout. The pia-arachnoid of base presented the characteristic changes of a diffuse specific leptomeningitis. The vessels of the base were not diseased with the exception of both internal carotids, which were slightly reduced in caliber and the intima thickened from syphilitic endarteritis. The brain was symmetrical and weighed, when stripped of its membranes, 43 ounces. The right hemisphere was normal in appearance, the gyri well defined, the sulci of usual depth and the gray matter of cortex of usual thickness. On the left side, at the location indicated in the drawing by the dotted area, was found a characteristic syphiloma. The tumor was of a grayish red color, soft and semi-gelatinous in consistence, and was surrounded by an extensive area of softening. The tumor proper was irregular in shape and was situated anterior to the fissure of Rolando, involving the ascending frontal convolution and the posterior extremities of the first and second frontal convolutions.

The zone of softening was quite large and the cortical destruction considerable. The parts involved were the entire ascending frontal; the posterior ends of the superior middle and inferior frontal; and the anterior third of the ascending parietal convolutions. The ependyma of the lateral and third ventricles was slightly granular and abnormally injected. Further examination of the brain developed nothing abnormal. This case is of



unusual interest both from a surgical and neurological point of view. The history of an injury and the apparent depression of the skull, together with the psychical symptoms, the hemiplegia and aphasia, made the diagnosis of cerebral traumatism the most rational one. The absence of cerebral vomiting which is so frequently observed in neoplasms of the brain, and especially in syphilis and other rapidly-growing tumors, which cause intracranial pressure and meningitis, was negative to a diagnosis of

tumor. So also were the absence of optic neuritis and localized or general convulsions, all of which are frequent symptoms of cerebral tumor. The neurologist will find the case corroborative of the generally accepted methods of cerebral diagnosis. The involvement of the motor-centers for the leg, arm and face, was evidenced by the paralysis of those parts, while the extension of the diseased area to the posterior end of Broca's convolution caused the motor aphasia present.

ART IN THE INSANE.*

By JAS. G. KIERNAN, M. D., Chicago, Ill.,

Fellow of the Chicago Academy of Medicine; Lecturer on Forensic Psychiatry
Union Law School of Chicago.

DR. G. FRANK LYDSTON, in opening the discussion congratulated the Academy on the able and classical paper to which it had listened. Such papers are the foundation upon which the Academy hopes to build up American medical literature to a higher plane. Dr. Kiernan's paper was a valuable supplement to the able dissertation, which he recently presented to the Academy, on the question "Is Genius a Neurosis?" (ALIENIST AND NEUROLOGIST, January, 1892.) Dr. Kiernan had however most ably contradicted the views expressed at that time, by the essay just read upon "Art in the Insane." Dr. Lydston was of opinion that genius may at times be the direct outcome of neurotic disturbances, the foundation of which may or may not be physically evident, but often is certain it was, that artistic talent might develop in individuals hitherto presenting diametrically opposite impulses, under the influence of mental aberration; or in direct association with it.

When it is considered how intimate a relation existed between art and the higher emotions and faculties, and particularly the imagination, the neurotic basis of artistic talent in many instances is by no means remarkable. By the term art, he meant all that the term implies from the composition of a romance or poem to the painting of a landscape. He had always questioned the possibility of the fine, creative frenzy of the novelist or the poet, being compatible with a perfect mental equilibrium. The normal

* Discussion of the paper on "Art in the Insane," published in the April (1892) ALIENIST AND NEUROLOGIST, and read before the Chicago Academy of Medicine.

mind did not see visions or pass in review the everchanging scenes and characters of a blood-curdling novel or drama. Such flights of the imagination must be, it seemed to him, at the expense of the normal equilibrium. It is well known that insanity is often associated with exaltation of the imagination. If then, artistic creative ability depends so much upon exaltation of the imagination, why may not the peculiar state of the insane mind be a direct cause of artistic ability? It did not follow that every artist, poet or novelist is mentally unsound, but it is obvious that he may be. Certain it was that he is unusually temporarily so at the time his best work is performed. This of course did not apply so pertinently to the artist as to the poet and novelist. The artist was often a mere reproducer of lines, color and detail. When he was in the realms of creative art, however, it may hold true.

The imagination is often excessively exalted. Simon had stated that in paranoiacs the imagination is inversely to the intellect. Tardieu had observed that artistic talent is not only often observed in the insane, but that their drawings are important from a medico-legal standpoint.

Lombroso has analyzed 108 cases of artistic instinct in the insane and had found that in this series the congenital and incurable types of disease predominated. Dr. Lydston had met with many interesting examples of the development of artistic talent in the insane. In one very interesting case an illiterate paranoiac developed a marvellous amount of military and architectural genius. He had most elaborate plans and specifications for military camps, schools and fortifications, which were pronounced by experts to be remarkably fine. His architectural drawings were not only elaborate, but beautifully executed. Dr. Lydston had seen numerous cases where exquisite work in carving and artificial-flower making had been done by coarse and vulgar patients. One very interesting case that came under his observation was that of a

ward tough, who developed a penchant for writing songs and poetry of a sacred character, which were by no means discreditable.

In closing he wished to state that there was nothing to be gained by resenting the allegation of a co-relation between neurotic aberrations and the impulses of artistic ability or genius. There is much of psychological value to be derived from a recognition of the facts as they exist, and studying them as psychological phenomena of practical import. With the vagaries of a Rousseau, a DeQuincey, a Poe, a Byron and a Napoleon before us we must hesitate, if we are consistent, before denying the relation of genius and artistic ability to neuroses. Science rather than sentiment should be the crucible in which to try the facts and theories bearing upon this question.

Dr. C. G. Chaddock, of Traverse City, Mich., said that the specialist in any department of science should guard against a narrowness of view necessarily conditioned by his habitual mode of thought. We are too prone to forget that we should endeavor to see all sides of a subject. It is a fact that psychiatrists seek to find abnormalities in all minds. This tendency of psychiatric thought is doubtless responsible for the prevalent view that genius is a morbid phenomena, a manifestation dependent upon neuropsychical degeneracy. Dr. Kiernan, in his study of genius, finds reason to controvert the prevalent idea; and we are much indebted to him for his effort to clear up this question. He indicates very clearly the distinction that should guide us in a philosophical study of genius and its productions in their relation to psychopathology.

"Art in the Insane" is an enlargement of the theme "Is Genius a Neurosis?" and the key to the problem lies in the concluding words of the essay, "Insanity mars, but does not make genius."

It seems clear, as Dr. Kiernan aptly puts it, that genius, when it is associated with characteristics of degeneracy,

is "evidence of a conservative element." A nervous organization manifesting genius may manifest morbid mental symptoms—a man of genius may become insane; but an insane individual manifesting genius due to insanity is yet to be found. The highest mental endowments—the ability to *produce*, which distinguishes the man of genius from the man of talent, whose power lies in his ability to *reproduce*—are but the outward expressions of inner refinements of nervous organization. Every refinement of nervous structure, like every refinement in mechanical structure, takes place at the expense of structural strength; a delicate mechanism is necessarily prone to derangements of its parts, owing to the intense effect of slight disturbing influences; and a delicate nervous organization, which is necessary to genius, must be prone to react abnormally to unfavorable influences. To this necessary condition is due the sad fact that men of genius frequently succumb to nervous disorders.

Refinement of nervous organization also takes place at the expense of other parts of the organism—directly and indirectly; and thus the organism as a whole is but poorly suited to perform the most important of organic functions—procreation. A genius transmits his weakness, seldom his intellectual strength.

The reason for this lies again in refinement of organization. Refinement of organization is transmitted increasingly, until at last the organism is so weak, so lacking in resistive power, that all higher nervous functions are entirely overshadowed, distorted, or destroyed. Thus genius may be associated with various functional weaknesses, various anatomical signs of degeneracy; even after the weakness has become so pronounced that the individual is markedly degenerate, there may be functional manifestations, which attest the refinement of nervous organization—that perfection the destruction of which has not been completed.

Perfection of function, wherever manifested, must be

due to perfection of organization; it can never be the product of low organization. Therefore, genius, perfect or imperfect, can never be due to degeneracy as we understand that word in its anthropological meaning. It is much more logical to regard the nervous constitution manifesting genius as a possible cause of degeneracy in descendants, of weakness in the individual. One-sided degenerate geniuses do not owe their genius to degeneracy, but to the vestiges of perfection of nervous organization.

That genius sometimes arises from immediate ancestry, which, *a priori*, would seem most inauspicious, does not detract from this view. In such a case the apparent anomaly may be due to atavism; or we may conceive the law of biological progress to have been completed at a bound. Again, we must guard against too narrow a view. If degeneracy is almost the necessary heritage of the descendants of genius, it is by no means their exclusive property. Degeneracy may befall any organization; in fact, the majority of degenerate individuals have fallen from no very high ancestral estate.

Dr. Harriet C. B. Alexander could hardly accept the doctrine that removal of inhibitions sufficed to account for the appearance of art, literature, and mechanical powers in the insane, hitherto destitute of them. Meynert had shown that normal emotional exaltation was simply in excess in hypomania, and acute stages of mania or allied states of other psychoses. Many an artist, a *litterateur* or mechanical genius had found that an increased cerebral supply of oxygen increased his invention; such increased supply underlay the psychoses mentioned. It had to be admitted, of course, that insane conceptions rapidly arose under such conditions, and from their very rapidity of origin weakened and even annihilated each other, but the fittest of these under certain circumstances survived and were as truly creative productions as their allied creations by artists, *litterati* and mechanicians. The egotism of the insane checked the full

development of such creations. Dr. Alexander had studied productions of a female hysterical paranoiac, whose conceptions of some of the problems of evil in the universe evinced marked creative power. Her work had received decided commendation at the Centennial Exhibition. In dealing with *genre* pictures of child-life, she evinced decided genius, albeit an element of equally decided imbecility was evident in the puerile prices asked for her productions. Dr. Alexander felt obliged to take issue with Dr. Kiernan as to the influence of astigmatism in the production of Turner's pictures. Had these peculiarities been simply due to astigmatism Turner would soon have ascertained the fact and corrected his deficiencies.

Dr. Archibald Church thought that other causes than atavism would be required to account for certain of the art phenomena described by Dr. Kiernan, that insane under certain conditions evinced decided creative power, his own experience in the Elgin Insane Hospital tended to demonstrate. He recalled a case in which a storm seen from the windows of the insane hospital was most vividly depicted by a patient. He was also of opinion that astigmatism alone did not suffice to account for the art phenomena described by Dr. Kiernan in Turner's case.

Dr. Casey A. Wood felt justified in asserting that the color sense is not affected by astigmatism, *per se*. Of course blurred images necessarily include indistinct coloration, but he did not think any degree of astigmatism would produce Daltonism or, more properly, perversion of the color sense, and, it seemed, that of such a state Turner was accused. After all, what was worthy of admiration in Turner was his *consistent* treatment of his subjects so far as coloration was concerned. He may not paint them (as they seem to most people) in nature's side by side, comparing his consistency, and his clear blending, the conclusion must be drawn that Turner painted nature as it appeared to him; that what he saw was not what

others would have seen; that his treatment of color was not that of a color-blind artist, who would not be consistent in his coloring, because not recognizing the difference between colors such a one would be likely to use one color or shade for one sunset, and quite a different one in painting accustomed tints, but he so blends his unnatural colors that one said, "The sun does not rise like that, but it would be glorious if it did," and as a matter of fact there are all possible colors, shades and tints in nature. Dr. Wood knew of one lookout (of blessed memory), whence he had seen sunsets, sunrises and cloud mixtures more glorious than Turner could have dreamed. But looking, as Dr. Wood had often done at Turner's pictures, the same is a similar scene. Turner's color-vision would seem to have been a perverted one; a sort of parachromatopsia. He was not color-blind in the ordinary sense any more than one affected by alexia or dyslexia is uneducated, or one affected by agraphia has never learned to write.

Dr. C. C. Hersman, of Pittsburg, Pa., had paid some attention to the subject, while physician to the West Virginia Insane Hospital. He had one specimen of the art of the insane which he prized highly. The artist was a chronic confusional lunatic, who had been architect in Harper's Ferry before the war. His incoherence was sufficient to prevent conversation even anent the picture, which excellently depicted the hospital, and had been drawn from memory while sitting in the ward. Another patient carved from beef bones images of various sizes and types. The obscene element, to which allusion had been made by Dr. Kiernan, was noticeable in the relatively frequent appearance on these of male and female genitalia. Another carved jointed snakes, so as to imitate the natural motions of the animal, if held between the finger and thumb.

Dr. Daniel Clark, of Toronto, Canada, said that his research had not been exactly in the same line with the present paper. He had been collecting the literary

effusions and the mechanical work of the insane, and had given several popular lectures on the subject, with the view of enlightening the obtuse public on a subject about which there exists antiquated notions based upon the idea that, of necessity, all the insane must be maniacs. * It is astonishing how hard it is to dislodge the fixed delusions of a sane and educated people even in Christendom. Dr. Kiernan's paper shows that amid wild wanderings of the insane there is "method in their madness." This as diversified as is the varied nature on the one hand, and the disease on the other. The insane of the delusional class will do excellent work mentally or mechanically along the lines of thought which have been a life effort. Work in this direction is put forth with less psychic energy than is any mentality that is sprung upon the mind, and which needs immediate action accompanied by good judgment in the literature of the insane. He had seen the same traits, *idiosyncrasies* and views which were manifested before insanity set in. In mechanical construction and invention, the same is true. It shows that the substratal and primary element remain, but they are twisted into abnormal forms by the interjection of disease with its variations. This is true of the cases Dr. Kiernan had cited, and it shows that virtually the old ditty is true, that "However well-bred, people will talk of those things which run most in their heads." The extravagances, idealism and egotism have the natural bias lying below, upon which these excrescences grow, just as from a few chemical elements almost endless compounds can be forced. The animal nature is the first formed, this is succeeded by the intellectual, and upon the knowable are built moral judgments. When insanity begins to disintegrate, the mental unit is usually dissolved in the inverse order of building up. This accounts for much of the immoral, which is seen in the engravings and writings of the insane, conjoined with a certain amount of shrewdness and intellectual "smartness" in daily life. It follows this law, and is necessarily of a

sporadic nature. On account of this personal diversity many authors have run mad on nomenclature. The complex classification based either on the somatic or metaphysical distinctions is perplexing and ignores the fact that primary conditions have built upon them multifarious diversity. No two persons are constituted alike, never have been, never will be.

Dr. C. B. Burr, of Pontiac, Michigan, had been deeply interested in the paper and congratulates the Academy on this extremely thoughtful production. Speaking from his personal experience purely, he should arrange the artistic (more or less) productions of the insane in five groups:

First. That which is not necessarily an indication of impaired mental action, but the result of education and training in artistic lines, and representing a lucid expression, even as the conversation in advanced mental impairment, or infrequent incoherence, may on occasions betray no departure from that which is natural.

Second. The opposite of this, the inartistic product which arises from faulty education and childish lack of discrimination, but which is not necessarily evidence of mental weakness, being due entirely to absence of artistic skill.

Third. The symbolic and inventive. This, so well illustrated in the paper, it is unnecessary to dwell upon. It is most commonly seen in paranoia and chronic delusional forms of disease, where any previous artistic sense is not effaced or blurred, and where persecutory delusions and the allied delusions of power and importance are the predominating morbid fancies. As the assault, or the appearance of the persecutor shows itself to the subject of the delusion, he delineates it upon paper. The case of a patient has been familiar to Dr. Burr for many years, who is beset by "foes from above" making war, as he expresses it, "upon the order." The weapons that they use, the infernal machines which they employ, he attempts to depict, and as in verbal descriptions of

their appearance and form and outline, he shows an astonishing inventiveness in the matter of impossible words, so in his pictorial delineations and explanations of his figures there is an attempt at definition and exactitude, but the finished product is an impossible creation. His pencil drawings are not wholly lacking in artistic merit. His lines are good and much of his work of a regular character. Inconceivable and impossible as it is, one is interested in spite of himself by the patient's intense earnestness and facility in description, and looks eagerly to discover what the patient sees in it.

Fourth. A fourth type is that so commonly seen in recurrent forms of disease, expressive of the exaggerated feelings and sentiments of the patient during periods of elation. The picture represents the undue self-confidence of the patient in the line of art, even as his conversation is extravagant and expressive of an ability to accomplish ends which far exceeds his mental and bodily resources.

Fifth. The fifth group, and closely allied to the third, is that in which the subject confines himself to copying the work of others, and is not, strictly speaking, inventive, but distorts work, interpolates figures of his own, adapts the work of others, and then, so to speak, adopts it as his own conception.

Dr. J. A. Benson, of Chicago, said that art in the insane as observed by him had been characterized by the excess and deficiency pointed out by Dr. Kiernan.

Dr. Lagorio, of Chicago, said that in many Italian insane hospitals, art museums had been formed and the artistic tendencies of the patients were cultivated as a means of employment. For many obvious reasons art was much more likely to occur in the Italian insane, hence its cultivation as a means of employment was to a greater extent possible in Italy than elsewhere, although in Holland, Germany and Austria similar cultivation could be expected to have good results around old art centers Nuremburg, Vienna, Antwerp, etc.

Dr. Kiernan said that the position of Dr. A. Church

anent atavism would be correct could any other explanation account for all the factors attendant on prehistoric art simulation by the art of the insane. Every other explanation failed to account in toto for such simulation. Dr. Kiernan was aware Piette* claimed that the likenesses of animals came first, then animals and foliation decoratively treated. Linear designs, such as zigzags, chevrons, and the like, and purely geometrical ornaments came last. Last of all, at the very close of the Reindeer Age were found traces of the simplest linear decoration no longer engraved, but painted in red colors. Thus decoration arose out of imitation, not imitation out of decoration. Conway† leaned to the same view but Drs. Wilson,‡ Lubke§ and Lubbock|| and every other anthropologist, ethnologist and archaeologist had failed to find such features in primitive art. Lubke is of opinion that textile art had much to do with the early prevalence of geometric and arabesque forms. Dr. Kiernan thought, however, that this factor but aided the influence of the factor to which he had already called attention. The features, to which Dr. Kiernan had called attention had been noticed by Passy** in the uninfluenced art of children. All the prominent features of art in the insane were in an inchaotic state in these. Dr. H. C. B. Alexander had called attention to the possible influence of the pathological state of mental exaltation. Conceptions were here so rapidly generated as to make but feeble associations and hence produced but feeble secondary conceptions, which by inhibiting each other, produced discord. The question raised by Dr. Alexander anent the influence of astigmatism in the case of Turner, had been answered by Dr. C. A. Wood. Dr. Lydston had evinced a tendency to regard the genius as a "sport" which was tending to become first a variety, then a species, then a genus.

* "L'Art dans l'Age du Pierre."

† "Dawn of Art."

‡ "Prehistoric Man."

§ "History of Art."

|| "Prehistoric Times."

** "La Revue Philosophique, 1891."

This view had been carried even farther by Areat,* who claimed that among painters at least a professional type was discovered practically reaching a variety. That such product of evolution might result Dr. Kiernan was prepared to admit, but it would be a degeneracy, not an advance. Dr. Kiernan's "Is Genius a Neurosis?" and his "Art in the Insane," seemed to have impressed Drs. Lydston and Chaddock in the most opposite manner. Dr. Chaddock had answered Dr. Lydston as to the contradictory contrasts of the two papers. Dr. Dewey had raised a point of considerable importance from a practical therapeutic stand-point. Guislain,† about half a century ago, had said that the insane should choose preferably landscapes and sea views rather than historical subjects, as these were more easily executed and the imagination receives a greater diversity of impression.

Dr. Dewey's opinion as to the possible therapeutic value of art in the insane had been corroborated by the Italian experience cited by Dr. Lagorio. Lombroso's book* contained a wealth of illustrations in the same direction. Ere the philistine epoch of American psychiatry, when a "pent-up Utica" contracted everything, art had in American insane hospitals played a part in therapeutics.

Dr. R. Dewey, of Kankakee, Ill., said that the paper of Dr. Kiernan was a profound study of the subject, marked by his well-known erudition and wide range of reading, as well as observation. The subject is one of speculative and philosophical interest, but also has its practical side. The facts here brought together regarding the asylum population correspond in a general way with what may be observed in every institution for the insane. Dr. Kiernan's cases may be divided into two classes: first, those of persons who were primarily artists and secondarily insane or impaired mentally, like Blake and Turner; and second, those who were primarily insane and developed some artistic taste or capacity, like

* "Psychologie du Peintre."

† "Leçon's orales sur des Phrenopathies."

many inmates of asylums, especially paranoiac cases. The faculty and feeling for art are rarely to be found among the latter class in any noteworthy development.

So far as any capabilities for art are affected by insanity, Dr. Dewey believed, as would naturally be expected, that it is true that insanity diminishes or inhibits this faculty in varying degrees. Insanity can hardly be expected in any instance to produce a favorable result upon the exercise of artistic faculty unless in exceptional cases, like that of the English portrait painter who painted his portraits with the aid of a perfect visual hallucination representing the subject. The painter after one or two sittings was able at any time to produce a spectral illusion of the sitter appearing to him in the chair with all the accessories from which he was as well able to paint as if his subject had been actually before him. In this case complete insanity and mental failure is reported to have eventually supervened, which is not surprising. Such a case as this suggests pointedly the difference between legitimate and healthful use of the imagination, which must be the gift of every artist, and the diseased activity of perceptive faculty.

Again, another way in which insanity may prompt artistic faculty is that its resultant confinement in an asylum may often afford leisure and an opportunity for its cultivation and exercise which would otherwise be wanting. This remark would apply very generally to the class of paranoiacs, many of whom acquire in the asylum a considerable proficiency in decorative, pictorial or plastic work, some of which may fairly be called artistic. Dr. Dewey had seen many among the insane who might be credited with artistic faculty, though none of any great skill with pencil or brush had come under his observation. He had seen exceeding artistic feeling and cleverness in the execution shown in the carvings of a paranoiac who had nothing but a knife blade to work with, and yet produced carved panels of graceful design such as are often met with in mediæval church architecture. Considering his opportuni-

ties the execution was remarkable, but the patient was too much under the domination of persecutory ideas connected with telephones and electricity to apply himself to anything systematically. Some patients who might be called artists in metal work we had seen. One especially, a querulent and incoherent Scandinavian, secretly wrought handsome chains out of copper wire with only the crudest tools. He would also duplicate any key shown him. He repeatedly manufactured keys to the ward where he was confined, but never used them improperly, though he manufactured them for the attendant who had lost his key to the ward and who was thereby saved the penalty of his carelessness. He also manufactured an ingenious dagger with brass handle and steel blade and an ornamental leather case.

An important advance which might be anticipated in institutions for the insane is the development of industry in decorative and other arts, since there are always many apt patients who will scarcely interest themselves in any ordinary, merely utilitarian employment.

Whittling, or (as it was now affectedly called in manual training slang) "sloyd," had been utilized as a means of employment for the insane, by Dr. Brigham and his contemporaries. Whittling and needlework were very natural Yankee art expressions. These same alienists also encouraged room decoration. In the cases where this last had been attempted by patients under Dr. Kiernan's care, he had been often impressed by the beautiful Japanese-like color effects produced by the patients. He had a sampler worked by a male hereditary paretic, which exhibited both these color effects and the arabesque tendencies of the insane. The patient was in a paralucid interval. The cases cited by Drs. Clark and Hersman and the analysis made by Dr. Burr justified, in Dr. Kiernan's judgment that art in the insane was due to conservative factors.

The Psychological State of Berkman, the Assailant of H. C. Frick.

By THEODORE DILLER, M. D., Pittsburg,

Physician to Neurological Department of Pittsburg Free Dispensary; Fellow of
Pittsburg Academy of Medicine; Member of New York Medico-Legal Society.

TO-DAY Berkman, who, on July 23rd last, feloniously assaulted Mr. H. C. Frick, the chairman of the Carnegie Iron and Steel Company, was convicted upon the several charges entered against him, and sentenced to twenty-two years imprisonment.

Now that the last chapter in this tragedy is closed, it may be worth while to briefly review Berkman's crime from a psychological stand-point.

Berkman, who is about 24 years of age, it seems, is a Russian by birth and has been in this country only a few years. No authentic account of his early life, has so far as I am aware, been published. If this could be obtained it would doubtless prove of much interest. But from newspaper accounts it would appear that he was associated with one order after another of anarchists in New York during the few years he has been in this country. He worked at various occupations. But both by his fellow-anarchists and fellow-workmen he was regarded as weak, vacillating, erratic and untrustworthy. The doctrines of even the notorious anarchist Most were far too mild for him. He became what is known among anarchists as an autonomist. In this group, each man is himself a separate division. The arrest and conviction of one of their number, it is believed by these anarchists, cannot entangle any of the others in legal complications, as each man acts of his own volition, and by his own authority.

While the excitement which arose from the Home stead strike was at its height, Berkman came to Pittsburg,

and after becoming well acquainted with Mr. Frick's movements, so that he could approach him at the most opportune time, he prepared to perpetrate the crime for which he had come here. Entering Mr. Frick's office at a time he had learned that he was likely to be there, Berkman, without any preliminaries, shot him twice, and then stabbed him. He was at once seized and taken to jail, where he lit a cigarette in a very *nonchalant* manner.

During the time he spent in jail, he appears to have exhibited far more concern for his creature comforts than for the consequences of his crime. But he expressed regret that his assault upon Mr. Frick had not proven fatal.

When brought into court he was neatly dressed and wore a smile upon his face, and appeared to be unconcerned. When asked whether he desired counsel, he sneeringly replied that he did not, but would conduct his own case. After each of the various witnesses for the prosecution had testified, Berkman was given a chance to ask any questions he desired. But he scarcely availed himself of the opportunity. He asked Mr. Frick and Mr. Leishman each the question, whether he intended to kill Mr. Leishman (who was in the room with Mr. Frick on the day of the assault).

When asked whether he had any defense to offer, he replied that he had not, but remarked: "I don't offer myself as a witness, but as a defendant, and I want to give my full defense." He then produced a manuscript and read an "address" in the German language, part of which I append, as translated by the *Pittsburg Press*:

"A blood-stained register that has shamed the American justice of the murder of John Brown and the gallants of Chicago, according to the right for the righteous cause that is shame. They cry out, have human sympathy and has shamed the civilization of the nineteenth century. This register that has shamed will to-day another shame. And by this register of carnal shame I know to-day you will set me as an example for the work of my innocent right cause as little as for the murder of John Brown so little as was suffered.

"I belong to those that were murdered at Chicago. I can come myself to them which the memory of the injustice of Chicago put me to indignity and grew to me that the great Republican right is a lie.

"As little as the murders obtained in Chicago their motion in Chicago, so little will it be for you to reach your aim in my trial; so believe not that you can drive out the free spirit from the world. This free spirit cannot be oppressed. It is stronger than your collected police power, and does not bend at your mighty power.

"This spirit will go from works to works, families to families, and will enter into the hearts of all laborers of all lands, and this spark or life of this spirit shall spread over the whole world. This certain fire will grow and it is childish to oppose this free spirit. Just look through the spirit of the world and you will see that even against opposition and all sorts of hardships that this spirit remains secure. It is the story of honor. It is a story of heart. The free spirit is secure."

After reading for about half an hour, he was admonished by the Court that he would have to conclude what he had to say by one o'clock. He said he would be compelled to forego discussion of the question of capital and labor, and that he would proceed to speak of Church and State. He then, according to the *Times*, proceeded as follows:

"The State, Church and capital are leagued together to oppress the workmen. This trinity tramples them under foot. The State is sustained by capital and the Church is owned by capital, and through these workingmen suffer. The law is the helper and defender of the rich, and oppressor of the poor. This is the beginning of the end. It is now a war against the present condition of affairs. The rich grow richer and the poor grow poorer, and the end is near. These small strikes will soon end in a large one, and freedom to all the workmen of all the world will follow, and this great strike is not so far away as you think. In all lands preparation is being made for it. And now for my acts. What were my motives for this crime, and what have I accomplished? The provocation was great."

When the time set for the conclusion of the defendant's remarks had arrived he had not yet given the motives for his crime, and the judge granted him a brief extension of time for that purpose. Berkman remarked that he could not give his motives in that time, but proceeded as follows:

"My reason for my act was to free the earth of the oppressors of the workingmen. I wanted to punish him, not murder him. I did not

assault Mr. Frick, but the person who had oppressed labor. I recognized no man by a name, but the cause of the trouble, and I wanted to remove the cause."—*Times*.

After a few minutes' deliberation, the jury found him guilty.

He was then taken to the penitentiary, where he submitted to the usual preliminary formalities without protest.

From this brief account of Berkman, and his crime, gleaned from the newspapers, strong doubts as to the man's sanity must, I think, arise in the minds of most alienists. And it is to be regretted, perhaps, that the question was not raised at or before his trial. Yet when the matter is considered from the practical stand-point, it does not to me appear that the matter is one of so much regret after all. In my opinion, twenty-two years are none too many, during which is to place Berkman out of the way of doing more harm. In the Western Penitentiary his routine in life will be regulated in a manner which will be exceedingly beneficial to him. He will be subjected to a discipline and *régime*, which would hardly be possible in one of our insane asylums. As there is no institution in this State for insane criminals, he would have been, if found insane, sent, under order of Court, to one of our State Hospitals for the insane, where, perhaps, he would occupy too little time in manual labor, and too much time in writing addresses, having for their object the solution of the problems of Church and State, capital and labor.

But to return to the question of Berkman's sanity. It seems to be very probable that the man belongs to that dangerous class of insane which has been brought to public attention only too frequently of late years through such occurrences as the attempt on Dr. Hall's life, the persecution of the actress Miss Mary Anderson, the assassination of President Garfield, and whom the newspapers call "cranks," and whom alienists now pretty generally denominate as paranoics.

The episodes in Berkman's life and the features in his character which would point to this conclusion are briefly these: That he was vacillating and erratic in character may be inferred from the fact that he joined one after another band of anarchists and that he never pursued any one occupation for any length of time, and that he was regarded as fickle and untrustworthy by the other anarchists in New York. The notorious Most characterized him as "a fool" and became exceedingly wary of him. In his perverted and weakened mind the doctrines of socialists and anarchists found a receptive soil. But with the morbid exaltation of the *ego*, so commonly observed in paranoics, he was not content to serve as a private in the ranks of ordinary anarchists, but joined a "group" in which each man is, as it were a leader. This great exaltation of self led him to believe that he could in some way solve all the problems of Church and State, labor and capital. So when, during the great Homestead strike, the name of Mr. H. C. Frick became known and published daily throughout the land in connection with his position as chairman of the Carnegie Steel Co., Berkman's perverted mind led him to believe that he could become a hero, a martyr and a liberator of the working man by the assassination of Mr. Frick. Acting upon this idea he came to Pittsburgh and carefully and deliberately reconnoitered the ground, and, when fully ready, he boldly, coolly, in broad daylight, made his contemplated attempt at assassination. His perpetration of his bloody deed in broad daylight, at the busiest time of the day, when escape was impossible, tallies well with the methods of paranoics. He probably did not care for arrest and conviction, if he could only become a hero, a martyr and a notable historical character. After his attempted assassination it is not surprising that he expressed regret only because his bullets had not proved fatal.

Added to the study of his life and conduct down to the time of his arrest, the study of that during his imprisonment and trial strongly confirm the idea that the

man is a paranoic. While in jail he made no effort to secure the services of a lawyer, or to devise himself any plan of defense, but, instead prepared an address, which attempted no specific defense of the crimes with which he was charged, but which dealt with his favorite subjects of labor and capital, Church and State. A large part of this address was unintelligible and incoherent. No one but a fool could have expected that it would have any weight with a jury. Even Berkman himself apparently did not expect it to have much effect; for when invited by the judge to speak before he was sentenced, he said: "I did not expect justice, and I did not get it." Even with long imprisonment staring him in the face, he preferred to pose as a liberator and to magnify the greatness and importance of himself and his deed. For such men the prison and the gallows have no horrors.

Few people were in the court-house at the trial, as its date was kept secret. This, doubtless was, as one of the newspapers aptly said, "a source of great disappointment to Berkman." Probably he felt much chagrined that so slim an audience was present to hear such a notable "address."

Had a lawyer been retained in the case, doubtless an attempt to set up the plea of insanity would have been made. Probably Berkman, himself would have most strenuously objected to such a plea as it would have upset all his fine theories of greatness. If the man had been sane he would most likely have retained a lawyer, and then shammed insanity as the only hope of escaping prison.

Torquato Tasso—A Supplemental Note.

By W. W. IRELAND, M. D., Scotland.

IN an Italian periodical, the *Nuova Antologia, Revista di Scienze, Lettere ed Arti*, 16 Aprile, 1892, Roma, there is a paper entitled "*Il Tasso e gli Estensi*" (Tasso and the Family of Eshe), giving a review of some documents which have been lately published about Tasso and the Duke of Ferrara, his brother the Cardinal Luigi, and the Princesses Lucrezia and Leonora. These are mainly written or edited by Angelo Solerti, whose studies are to be completed by a life of Tasso, which is in the press if it has not already appeared. These new researches utterly destroy the old legend that Tasso was the victim of the jealousy or revenge of the Prince of Ferrara, who kept him in confinement for seven years under the pretext that he was insane.

Hundreds of letters, we are told, published by Solerti, absolve from all suspicion the conduct of Duke Alfonso towards the poet, and prove that a father could not have done more for an unfortunate son. The letters published also show the Princess Leonora as a lady not without worth, but whose thoughts were mainly occupied with the care of her health, always in the hopes of escaping from an illness which is never cured and who in the rare intervals of truce from her ailments is altogether occupied with gossip, domestic quarrels, with, now and then, some matter of government or politics. Her mind was much troubled with the debts of her brother, the Cardinal Luigi, with his quarrels with the Duke Alfonso and with the marriage of her sister Lucrezia, so that she had neither any time nor any wish to think of love affairs. Her relations with Tasso appear to have been ephemeral and insignificant. She was a lukewarm protectress, and though an affectionate friend was never in love with the poet.

The reviewer observes that Tasso appearing at a time in which the Renaissance, after having reached its highest perfection, was already in its decline, still remains the most deeply popular of the four great Italian poets; but our estimate of the man is changed. These new documents confirm the conclusions which the medical skill of Corradi and the learned criticism of D'Ovidio had already reached. It thus appears that the views we arrived at in our paper, "Torquato Tasso, a Psychological Study," in the *ALIENIST AND NEUROLOGIST* of October, 1891, have been confirmed by the most recent inquiries in Italy.

Experts and Expert Testimony.*

By HAROLD N. MOYER, M. D., Chicago, Ill.,

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IT is apparent that in a simple state of society where all individuals are engaged in similar occupations jurisprudence must find its simplest expression. In a community composed largely of farmers each man is an expert in matters of agriculture and the litigation of such communities must partake of the simple character of its occupations. The same will be true of any community, of small numbers widely scattered, in which each individual largely performs most offices for himself.

When, however, we aggregate individuals and segregate employments there is a more complicated social fabric. Particularly will this be true in those communities in which employments are specialized to a great degree. Where handicrafts and professions are differentiated to such an extent that each individual devotes his entire attention to a particular production or subject, it is manifest that by so doing he acquires particular and precise knowledge much greater than that possessed by the general average of the community.

One of the most distinguishing marks of our modern civilization is the unparalleled differentiation and specialization of employments; so complete is this that each individual is more and more dependent on every other individual. In proportion as these influences are extended and accentuated the jurisprudence of our times must become more complicated.

Take for example the common carrier, a business that now represents billions of capital and employs directly and indirectly hundreds of thousands of persons. It furnishes a vast amount of litigation that was unheard of

* Read before the Chicago Medico-Legal Society, March 5th, 1892.

when English law was new. Whether spinal concussion existed in those days we are not now able to say, but it could scarcely have been a contention in a suit at law, because people so rarely exposed themselves to the negligence of a common carrier. Contrast this primitive condition with the present age in which millions of people daily place themselves in the care of others, the slightest negligence of whom, resulting in personal injury, may furnish ground for litigation. Is it not a matter of wonder that suits of this character are as infrequent as they are?

It goes without saying that the increased differentiation in employments has produced a vast army of men, perhaps one-half of the active part of the community, who are especially skilled in some direction, and who have expert knowledge of some particular process or trade, it is but natural that courts should endeavor to avail themselves of this knowledge. Indeed the administration of justice in our day would be practically impossible without such aids.

Granting then that we have shown the necessity of expert evidence and that this necessity will probably grow as time advances, and our civilization becomes more complicated, we may at once pass to a consideration of the present standing of experts in courts, the manner in which testimony is introduced, and to a discussion of what, if any, improvements can be made in present methods.

At the outset we will concede that the present system is not perfect. Even the administration of the law can scarcely be considered too accurate when it is necessary for our appellate court to reverse and remand nearly one-half the cases considered at a single term. A brief examination of our drainage system would convince one that the Creator was wise when he kept the ordering of the planets and stars as his own especial business. These and like examples ought to teach us that absolute perfection is rarely attained in human affairs, that the true

measure is one of utility and adaptability. No measure or system should be condemned merely because defects may be found, but the question should always be asked, Is it the best that can be done under the circumstances?

The law makes a broad distinction between matters of fact and matters of opinion. It is apparent that opinion evidence to be of any value must be given by someone who has special, that is, more than ordinary knowledge of the particular subject; in other words, an expert. As to who is and who is not an expert must be largely left to the particular circumstances in each case. The ordinary witness shades into the expert, just as ordinary testimony passes by imperceptible degrees into opinion testimony. For example, in a matter of insanity, a non-professional witness may give his opinion as to the mental condition of a person because he has expert knowledge—that is, knowledge not possessed by the general community—of the character and habits of the particular person. Of course such testimony does not equal in value that of one who has been long trained in the study of normal and aberrant mentality, though in a way it is quite as expert. The instance cited shows that it is impossible to draw a hard and fast line between the expert and the ordinary witness. And this is one of the chief difficulties in suggesting improvements in the present system.

As one of our judges puts it: "An examination of the cases in which the courts have passed on the competency of experts shows a lamentable confusion and mixing up of matter-of-fact with matter-of-law." The true reason of this obscurity has never yet been stated, but has always been referred to defective statements or confused rulings, when, as a matter-of-fact it is a difficulty inherent in the subject itself. It is the same difficulty that we have in measuring mental capacity. We assume an arbitrary line beyond which a person is considered to be insane, when nature makes no such distinction. Sanity and insanity shade into each other, just as twilight passes into darkness,

but no one can give the exact point where one leaves off and the other begins, the result has been that no satisfactory rule of law for measuring mental capacity has yet been formulated. And for the same reason because there is no natural division between opinion testimony and that relating to facts, there has been a wide diversity of rulings. No jurist seems to have yet discovered this as the true cause of the "lamentable confusion" observed in the deliverances of our courts.

In addition to the confused rulings as to who are experts we find a wide variation in the opinion of courts as to the value of expert medical testimony. For instance: the Supreme Court of Illinois has said if there was any kind of testimony not only of no value, but even worse, it was that of experts; while the Supreme Court of Texas says that the opinions of medical men are received with great respect and consideration. Again, the Supreme Court of Michigan says that the scope of medical testimony ought not to be extended, while the Supreme Court of Pennsylvania finds the knowledge and experience of medical men of great value. In the light of such contradictory arguments, we must either conclude that there is an immense variation in the medical qualifications in different parts of the country, or else that the dictum of our legal friends is of no greater value than the testimony they are discussing.

The law must always deal with general rules, and we doubt if our bar will ever consent to any special ruling by which a certain class of opinion testimony shall be governed that is not applicable to all others. The medical profession has been oftenest heard in opposition to the present order of things. From the tone of much that has been written, one would conclude that medical opinion testimony was about the only kind that was heard in our courts, when, as a matter-of-fact, it forms but a small part of expert testimony as a whole. The mechanic, merchant, clerk, even the ordinary laborer, frequently gives testimony that is in every sense as expert

as that given by the most accomplished chemist or physicist.

The chief objection urged to the present system is that much of the testimony is consciously or unconsciously biased, though a great deal that has been said on this subject is gross exaggeration. In a sense a man upon the witness stand may feel that his opinions are at stake and that they are to be defended by fair means if he can, but failing that, by the best means at hand. This mental attitude while occasionally seen, is we believe, rare.

One thing more than another that has tended to bring medical opinion testimony into discredit as compared with other varieties, is that medicine is not an exact science. The problems that we approach are to be largely measured by judgment and experience, and as long as such is the case, perhaps courts and the general public are justified in looking askance at our claims of infallibility. In proportion as a science can be reduced to mathematical formulæ, can it be considered exact; mechanics, chemistry, physics and astronomy have in part or wholly reached this degree of accuracy. Unfortunately the facts of biology, physiology and medicine depend very much upon the manner in which they are stated, the change of an adjective or even the shifting of an accent may so affect verbal definition as to show differences that are more apparent than real. In many of these respects medicine presents exactly the same disabilities as the law. We are all familiar with the way in which trials are conducted: one attorney presents the side of the plaintiff in the most favorable possible light. Of course he is not expected to willfully distort testimony, but it has now and then been charged. Does anyone in consequence suggest any radical changes in the manner in which our courts shall try cases? The present attitude of the expert is something analogous to that of the attorney, and it is probable that there is a certain justness and fairness in the present arrangement that could not be other-

wise obtained. Like the law medicine is not an exact science, their rules and formulæ are largely influenced by judgment and interpretation. Chloride of sodium and nitrate of silver in solution when mixed will throw down a white flocculent precipitate. The result is constant and invariable. If law and medicine had facts of this character to deal with, it would be a simple matter to suggest improvements in both the practice of law and the position of the medical expert.

We venture the prediction that if any of the proposed changes regarding the methods of expert testimony had obtained at the time of its first introduction, we should now find a large number clamoring for the introduction of the present system. It is instructive in this connection to read the "Proceedings of the International Congress of Forensic Medicine," held in Paris in 1889. Those taking part in the debate included some of the best criminal lawyers in Paris, as well as many physicians eminent in medical jurisprudence. The system in vogue in France is that of a commission to whom are referred all questions calling for medical experts. Of late this system has become unpopular, because it is believed to operate unduly against the accused. At that meeting several propositions were advanced and submitted to a vote, one directing that in all cases at least two experts should be employed, was carried unanimously, while a second, that they should be appointed by the judge, was carried by a small majority, a large minority voting in favor of each side naming their own expert, substantially the system followed in this country. In view of the conflicting testimony from countries in which the commission plan has been thoroughly tried, we certainly ought to approach any contemplated changes in our methods with great care.

Much of the dissatisfaction experienced by physicians with the present manner of giving expert testimony is that they leave the stand feeling that they have not expressed themselves fully on the subject in hand or else they are conscious that their views have been seriously warped by

cross-examination. In a great measure this arises from a want of understanding of the common rules of evidence and the rights of a witness. It is not an infrequent observation in our courts to see a witness stumbling along, mixing objective signs with subjective statements made to him by the patient, until the whole matter is in such hopeless confusion that it is impossible for the judge to make an intelligent ruling. There is little complaint on the part of those who are able to present facts and theories in a logical and orderly manner and in plain, non-technical language; in other words, those who have mastered the art of the medical jurist. It is difficult to see how this is to be remedied by any change in method, as obscure statements, a mixing of facts with opinions, or hearsay evidence, is sure to be confusing no matter how it is brought into court.

I shall not quote extensively from the literature of the subject as a mere recounting of the plans proposed would exceed the limits of my paper. They may, however, be divided into two classes: first, those which invade the province of the jury and practically decide that portion of the case relating to the special facts. Experts are appointed to investigate, or listen to testimony and then submit a report in writing to guide the court and jury. The second class is much less radical, and simply alters the method by which experts shall be summoned. Perhaps the best of these and one that would involve the least change in our present procedure, would be to have the judge appoint the experts to examine into the facts at issue, or listen to the testimony and then take the stand in the usual way. This would continue the present system of direct and cross-examination which we believe to be essential to the proper presentation of the views of both prosecution and defense. It would, however, obviate some of the grosser evils of the present system in which lawyers go out hunting for experts. It is a not infrequent experience to have them walk into the physician's office and give their theory of a case

or propound a hypothetical question. If his opinion is unfavorable the search is continued until favorable results are reached, or they conclude that expert testimony would be of no value in their case. In having the experts selected by the court all this would be done away with. Their compensation should be taxed as part of the costs in the case. Some degree of flexibility could be obtained by varying the number and the manner in which they were to testify, or to hypothetical questions, or to examine into facts. It might also be wise to have a preliminary examination, something similar to that to which jurors are subjected, touching prejudices, previously formed opinions, knowledge of the case, etc. This would naturally give rise to well-founded objections that could be considered by the court. Of course all of these matters could be gone into on cross-examination, but it would be much better to have it brought out beforehand so as to keep expert testimony free from shadows of this character.

One clear objection to the plan proposed relates to experts who may have knowledge of facts acquired before any legal proceedings have been begun. In many cases a physician has treated or examined a patient long before there is any thought of a law-suit. The opinion of such persons, formed at the time, may be of more value than subsequent ones, or that of an expert based on a description of the facts. Whether these difficulties can be overcome and a clear distinction made in practice between opinion evidence previously acquired or that which is to be obtained during the progress of a trial is a question for judges and lawyers. If this contingency can be provided for it is certain that the selection of experts by the court presents some decided advantages over our present method.

From a consideration of all the facts the following conclusions seem to be justified :

1. The present system of expert medical evidence is admittedly faulty.
2. In part this is due to inherent difficulty of the subject.

3. In part to defective understanding of the elementary rules governing the introduction of evidence, by witnesses.

4. In part to the conflicting rulings of courts.

5. Any change, if made, should be done with great caution and only after the most mature deliberation.

6. The present inexact state of medical science does not warrant the invasion of the province of the jury or the abridgment of cross-examination.

7. The only change at present justified is one altering the manner in which experts are to be summoned.

8. The appointment of official experts is not advisable under our present political system.

SELECTIONS.

NEUROTHERAPY.

THE HYPNOTICS CHIEFLY EMPLOYED IN AMERICAN HOSPITALS FOR THE INSANE.—In an editorial article in the *Medical and Surgical Reporter*, June 4th, 1892, the writer states that while this subject is of special interest to those having practical relations with the insane, it is also interesting to the general practitioner, it being of the utmost importance that the insomnia of nervousness, incipient insanity, or the first stages of decided mania, or melancholia, should be controlled by the best means which experience has pointed out.

While believing that such measures as hot baths, douches, brisk rubbing, hot, nutritious drinks at bed-time, care of the diet and proper stimulation in the asthenic cases, together with hot appliances and galvanism, should first be resorted to, the author refers in the present article to cases in which these means have failed.

After calling attention to the fact that much valuable work has recently been performed in the discovery and clinical application of new hypnotic substances, the writer believes that no single drug is applicable to every case, but that drugs exist which, properly used, with due regard to their actions, go very far toward affording us a specific.

Before referring to the most useful of these the author outlines as follows the indications as presented in neurotic conditions:

1. Acute mania, acute delirious mania, acute epileptic mania and the acute maniacal stages of general paresis or chronic mania. In these the motor and cerebral activity are lessened and strength is conserved. It is in these states especially that hypnotics are urgently demanded and are the most useful.

2. In the noisy states of chronic mania, late stages of general paresis, and in the restlessness of convalescence from acute psychoses.

3. In the insomnia of acute and chronic melancholia, to aid the recuperative powers through rest.

4. In alcoholic insanity, periodic and circular insanity, and in primary or terminal dementia. The actions are

to quiet motor excitement and to control the patient as well as to obtain sleep.

These are the chief indications, according to the author, which present themselves among the communities in American hospitals for the insane, for which every known remedy has been from time to time employed. It would be useless, and beyond the scope of this sketch, as he believes, to quote from the voluminous literature of the subject, so he offers only "certain facts which are of attested value."

The writer states that sulfonal has been extensively tried since its discovery by Kast, and has been used with positive success by Cramer in ninety-two cases, with no instance of unpleasant after-effects. Also by Schwalbe, who reports success in sixty-six per cent. of his cases, and by Rabbas, who used it over 200 times with good effect. Papers in praise of sulfonal have been written by such authorities as Ziemssen, Kast, Engelman, Ostreicher, Schotte, Schmey, Frankel, Salgo, Rosenbach and others abroad, while in this country we have the contributions of Flint, Wetherill, Sachs, Wilson, Hutchinson, Griffith, Hay, Kiernan and many others.

The author thinks there can be little doubt of the efficacy of sulfonal in cases of insanity, its chief benefit being derived in cases of simple mania, restlessness, excessive nervousness, and in all cases of which simple insomnia is to be overcome. In certain forms of melancholia and in the excessive nervous insomnia of alcoholism, sulfonal is one of the best remedies. No better way of giving sulfonal has been found than that of Kast—in a half-cupful of tea or light broth, two or three hours before its effects are desired.

Sulfonal, says the author, is being extensively used in cases of insomnia, and it has been found repeatedly to produce sleep when other hypnotics have failed. According to the author's views, sulfonal acts best when given in a single large dose, which at the beginning should not exceed fifteen grains.

IMMUNITY FROM TETANUS.—In an article on tetanus in the *Northwestern Lancet*, June, 1892, Dr. Hoegh states that recent investigators have discovered that certain animals possess immunity from certain diseases; the immunity being due to the presence in the blood of a chemical compound belonging to the group of albumens.

Thus the rat possesses immunity against anthrax, the

down through the popliteal space and down the outer surface of the leg as far as the ankle or toes.

A lesion still higher—at the third lumbar segment—anæsthetizes the entire back of thighs and legs, and the front of the thighs also, except over a narrow funnel-shaped zone, reaching down the whole front of the thigh and leg, even to the foot.

Destruction of all but the first segment of the lumbar cord causes complete anæsthesia of both legs and of the genitals and genital region. The line of anæsthesia follows Poupert's ligament in front (abdominal wall only becoming anæsthetic when first lumbar segment is included in the lesion), but behind has a horizontal outline at the level of the sacral crests.

In all these lesions and areas of anæsthesia the anus, perinæum and genitals are included in the insensitive region. This is important as distinguishing organic from hysterical paraplegia, for in the latter the genitals are not included.

Above the level of the first lumbar segment, lesions of the cord produce anæsthesia, extending around the trunk in a girdle form.

But a study of the anæsthetic area alone will not help to distinguish lesion of the cauda high up from destructive lesion of the cord at its lowest extremity. In cauda lesions, however, pressure on the nerve-roots is often sufficient to cause widespread paralysis when sensation is but little affected, whereas in cord lesions at lower levels paralysis is very slight, being confined to the peronei muscles when the lesion is at or below the second sacral segment, only invading the muscles of the hip joint when the entire lumbar region of the cord is affected.

TRAUMATIC NEUROSES IN CHILDREN.—Under the above title, M. Vibeit read a paper before the Société de Médecine Légale. He cited two cases, the first of which was that of a little girl, aged 2½ years, who was in a train at the time of the catastrophe of Saint Mandé. The child received a slight contusion on the forehead. She had not lost consciousness, but she was so much frightened that when she was found an hour afterwards by her father upon the top of a coach, she wished to throw herself on the pavement. At this time vomiting supervened, and for eight days her agitation was kept up by terrifying hallucinations, such as those of beasts, flames, etc. At the end of eight days the acute phenomena disappeared and

gave place to a profound modification in character. The child who had previously been of mild disposition became peevish, taciturn or dull, at times, without apparent cause. She would turn pale, her face showing great terror, when she would have visions of beasts or flames and then resume her normal state. The child, previous to the accident, proper in her habits, now began to urinate in bed. No disorder of cutaneous sensibility. Absence of morbid heredity. Then some amelioration of symptoms began to be noted; she urinated the bed less frequently. The prognosis was difficult.

The second case was that of a young boy, aged 5 years, who had been wounded by a plank falling on his forehead, resulting in loss of consciousness for half an hour. He was then taken with vomiting and it was thought had meningitis. He has never had convulsions, but instead, in this patient also, there was a profound modification in character. He became dull, grumbling, mistrustful; had disturbed sleep and terrifying nightmare.

In the discussion which followed the paper, M. Gilles expressed surprise that M. Vibert should use the term, "Traumatic Neuroses," which had no precise meaning and which should not be used in scientific nomenclature. M. Garmèr suggested the title "Injuries to the Cerebrum of Traumatic Origin in Children." M. Christian laid stress on the symptom of vomiting, remarking that these cases, taken in connection with others, indicated cerebral disturbance and meningitis.—*Le Prog. Medical*, June 18, 1892. T. D.

GUM LANCING.—H. C. Wood writes as follows to the *University Medical Magazine*: "Clinically, I am absolutely sure that I have seen convulsions, sick stomach, great restlessness, fever and various other functional disturbances in young children, immediately cured by the use of the gum lancet, after the failure of various other well-directed measures for relief. Theoretically, I am in accord with Dr. Kirk, in believing that Dr. Forchheimer absolutely misses the point of the matter, by his failure to understand that the good achieved is not due to the local blood-letting or to the relief of the inflammation of the gum, but to the removal of the backward pressure upon an extraordinarily sensitive and, at such times, congested nerve-pulp. As was long ago pointed out by Dr. J. W. White, at the period of eruption the roots of the teeth

are yet incomplete. 'Instead of the conical termination and minute foramen, which characterize a perfected tooth, the aperture is nearly as large as the root itself, and thus when the sensitive pulp, composed of connective tissue, blood-vessels and nerves, is in a condition of irritation because of the morbid activity of the process of dentition—augmented vascular and nervous action—there may be produced a hyperæmia sufficient, possibly, to cause the protrusion of a part of the mass from the incomplete aperture of the root, giving abundant cause for extreme constitutional disturbance.'

"I have myself seen a seemingly incurable epilepsy in an adult permanently cured by the removal of a persistent milk or first dentition tooth. Amaurosis and various other conditions in the adult, are well known to be the result of irritation of the trigeminal nerve by faulty teeth. How much more evil is to be expected from teeth irritation in the child!

"In conclusion, I reaffirm that whatever the theory in the matter may be, I am positive that gum-lancing is a most important therapeutic measure. It is essential, however, that it should be thorough and with the object of dividing the dense tissues that bind down the teeth."

NEUROPHYSIOLOGY.

THE SENSORY CONDUCTION PATHS IN THE SPINAL CORD.
—The views held by most physiologists in regard to the paths that conduct sense-impressions in the cord have been based upon the classical experiments of Brown-Séquard, who taught that, soon after entrance at the posterior roots, all sensory impulses, save those of muscular sense, underwent complete decussation, passing up the opposite side. Although supported by a certain amount of clinical evidence, this theory has not been allowed to go unchallenged. An epitome of the literature of the subject, together with the results of some personal experimental work by Dr. F. W. Mott, has been published in the *Philosophical Transactions* of the Royal Society of London for this year.

Mott, under the direction of Professor Schaefer, experimented on nine monkeys, cutting through one-half of the cord at different levels, and studying carefully the clinical

and anatomic consequences. By means of a strictly antiseptic technique he was able to avoid the confusion arising from wound-infection, an evil that has too often vitiated the results of other observers. An analysis of his report shows that, after hemisection of the monkey's cord, conscious sensation and the power of localization usually remain on the non-paralyzed but *not on the paralyzed side*. In testing the sensibility, the use of Schiff's "clamp test" was found to be the most satisfactory. The clip was always removed from the non-paralyzed foot, but when attached to the skin of the paralyzed one the blindfolded animal either paid no attention to it or would scratch the same spot on the foot of the opposite side (Allochiria). The knee-jerk on the side of the lesion was generally abolished for a few days; later it was exaggerated. A few hours after the operation, vasomotor paralysis on the side of the section was manifested, the foot becoming swollen, dark, and distinctly hotter than its fellow; this paralysis was always temporary, passing off in one or two weeks. The surface temperature was at first higher on the side of the paralysis.

There was never any marked paralysis of the muscles invariably associated in movement with those of the opposite side. On an average, at the end of three weeks, movements of the hip and knee returned on the paralyzed side; they were usually associated movements of flexion and extension. In some of the cases the motor areas of the cortex were exposed after several weeks and the effects of electric stimulation observed. The block was thus shown to exist even after a very complete return of associated movement.

Microscopic examination of the cord revealed the usual secondary degenerations, there were no crossed degenerations—and there had been no regeneration of nerve-fibers at the site of the lesion. Mott believes that the direct cerebellar tract has its origin in the nerve-processes of the ganglion-cells of Clarke's vesicular column; and with reference to the antero-lateral tract he differs from both Gowers and Edinger in thinking that it is made up of fibers coming from cells of the *same* side.

These experiments prove conclusively that in the monkey the sensory paths do not entirely cross, and in addition make it probable that while painful and thermic sensations may pass up either side of the cord, the sensations of touch and pressure associated with localiza-

tion, as well as the muscular-sense impressions, pass up chiefly by fibers of the same side. The return of sensation on the paralyzed side may be due to the development of collateral channels for sense, just as there are collateral channels formed for the production of bilateral associated movement.

To explain the peculiar condition of allochiria one may think of the nerve-impulse as being conducted, on account of the hemisection, in some way to the opposite side—and, after ascending the cord, crossing again high up to finally reach the cerebral hemisphere of the same side. Such a sensory impression of course misleads the animal as to the foot irritated, and it will keep up its fruitless attempts at removal until undeceived by visual correction.

These researches of Mott give results quite in accordance with the experiments of Weiss, Homan and Osawa, who operated on dogs, and confirm the deductions of Horsley and Gotch from their electric methods of examination. Nothing can as yet be definitely said as to the particular tract made use of by a particular variety of sensory impulse. The pathologic histology of tabes has given some support to the view that the muscular sense fibers pass up in Goll's columns, and the loss of painful and thermic sensations in syringomyelia suggests the gray matter as the conducting medium for these impressions. On the other hand, we know that the gray matter of different levels is connected by certain ascending internuncial fibers—a fact that makes it probable that the central gray mass in itself does not conduct impulses of any kind very far.

The different theories as to the production of hyperesthesia are most conflicting, and no one of the various suggestions (*e. g.*, hyperæmia, œdema, removal of inhibitory influences) can be regarded as perfectly satisfactory.

The question, how far are we justified in applying the knowledge experimentally gained of the conduction paths in the spinal cord of monkeys to the physiology of the human cord, is a difficult one, which we shall not attempt to discuss. The cases of hemileision of the cord in human beings that have been thoroughly worked out clinically and microscopically are unfortunately few in number, and indeed so far as they go give evidence in favor of the decussation of painful sensations soon after their entrance at the posterior roots. They do not, however, point to any similar decussation of the impressions of

tactile sense. We can scarcely expect a satisfactory clearing up of the subject until we possess a much more comprehensive series of cases in which the clinical phenomena studied by unbiased observers have been controlled by subsequent systematic histologic examinations.

NEUROPATHOLOGY.

THE MECHANISM OF BRAIN INJURIES.—*Brain*, Part II., 1892, contains an exhaustive and comprehensive study of "The Mechanism of Brain Injuries," by Alexander Miles, M. D., F. R. C. S., Edin., in which the author describes in detail his experiments on the lower animals, to prove the impossibility of having a fatal injury to the head in which there is no appreciable gross lesion to the brain substance directly or through its membranes—so-called concussion.

So far as his experience, based upon *post-mortem* examinations and a large number of experimental observations, goes, it has still to be demonstrated that death can result from mere concussion.

It is exceedingly difficult to distinguish clinically between concussion, compression and contusion of the brain.

The mechanism of an injury to the head, producing gross lesions, is as follows: a blow is dealt to the cranial wall and surrounding the point of impact the skull is depressed, forming the "cone of depression," and from the area into which this cone projects the cerebro-spinal fluid is forcibly expressed. Under such conditions, at the opposite pole of the axis of percussion, there is formed a "cone of bulging," which would accommodate all or most of this displaced fluid.

At each point there is formed a vacuum, first at the cone of depression when the bone recoils, and next at the cone of bulging when the fluid recedes, which results in leaving the blood-vessels of the membranes and brain substance at these points momentarily unsupported. This, with their partial paralysis caused by the previous compression to which they had been subjected, produces a rupture of the vessels.

Fracture by *contre-coupe*, as generally understood, is a myth.

It is probable that a blow on one side of the head can only produce a fracture on the other side, if the head be knocked against an unyielding object; this frequently results from the patient falling in the direction of the blow.

Fracture of the base by a fall on the vertex is a fracture by direct violence, as the weight of the body is transmitted through the spinal column to the occipital condyles.

Other so-called fractures by *contre-coupe* are explained on the theory that the "cone of bulging" has gone beyond a point from which it could recoil and the bone has given way.

In case the frontal bone is subjected to a severe blow, a cone of depression is found which displaces the sub-arachnoid fluid in this region, which force, passing through the frontal bone sets the fluid contained in the lateral ventricles into motion in the direction of the axis of percussion, *i. e.*, towards the base of the brain. As the only point of escapement is through the aqueduct of Sylvius, it may be torn up and lacerated, or only stretched. After traveling the aqueduct the fluid impinges with increased force on the wider fourth ventricle which forms a cone of bulging already prepared, and since the fluid can escape with great difficulty, primary laceration of these delicate structures results.

His conclusions are summarized as follows: (1). That the group of phenomena, commonly spoken of as "concussion of the brain," is the result of a temporary anæmia of that organ.

(2). That this anæmia is the reflex result of stimulation of the restiform bodies and perhaps other important centers in the region of the bulb.

(3). That these parts are stimulated by the wave of cerebro-spinal fluid, which rushes through the aqueduct of Sylvius, the foramen of Magendie, and from the sub-arachnoid space of the brain to that of the cord when a severe blow is dealt over the skull.

(4). That in accordance with the laws of hydrostatics, this cerebro-spinal fluid wave will disturb the equilibrium of the ultimate nerve cells throughout the central nervous system.

(5). That the hemorrhages found throughout the brain substance and on its surface are to be ascribed to the recession of the cerebro-spinal fluid which naturally supports the blood-vessels of the cerebrum.

(6). That the petechial hemorrhages found in cases of so-called concussion are not the proximate cause of the symptoms of that condition. They are rather to be looked upon as an index of the force producing the injury, than as the cause of the resulting phenomena. B.

THE FUNCTION OF THE THYROID GLAND.—After an elaborate historical study of the theories which have been pronounced concerning the thyroid gland, and a discussion of the nature of its tissues, Horsley (*Brit. Med. Jour.*, No. 1622) concludes "that the thyroid gland is a structure essentially connected with the metabolism of the blood and tissues; that in fulfillment of its functions it is hemapoietic both directly and indirectly, and that it secretes from the blood a colloid substance, which is transmitted via the lymphatics from the acini of the gland to the circulation;" and further, "that the thyroid gland is in functional activity before birth, and is of special metabolic importance in early extra-uterine life, while its value diminishes as the general vital processes increase." Indirect evidence affords weighty testimony in favor of the view that the thyroid is in truth the important organ of metabolic influence that the general results of thyroidectomy would lead us to believe it to be.

PSYCHIATRY.

UNCONSCIOUS PSYCHICAL ACTIVITY IN MENTAL PATHOLOGY.—As DeSarlo (Report of Progress by Dr. H. R. Stedman, *Boston Med. and Surg. Journal*, July 7, 1892) looks upon it the idea of unconscious mental activity is not the Alpha and Omega of psychology, but is useful in order to understand many phenomena. He applies Janet's work to psychiatry. But many before Janet had appealed to the unconscious activity to explain these phenomena.

(1.) In *psychopathic defects*, psychical elements which are detached from personality, from principal apperceptive activity (from consciousness) are few, and form a partial automatism which functions on its own account and preserves close relations with the rest of the mind. The separation is very slight and permits the confirmation outside the mind of insignificant phenomena which exag-

gerate or modify the manifestations of normal consciousness and sometimes oppose it.

(2.) In *morbid degenerate forms* (periodic and circular insanity, hysteria, epilepsy, hypochondria, paranoia) the psychic elements which concur in forming a second personality are multiple and tend to be organized in a complex fashion. In such cases the second personality, which may be simultaneous or successive in the same individual, speaks and acts on its own account and remains by the side of the first personality, with which it often has no *rapport*. There are two or more true personalities simultaneously or successively in the same individual. At other times the abnormal group is so rich in elements as to attract the subject's attention, to disturb or take away his liberty, and may finally be substituted completely for the principal personality (paranoia).

(3.) In *psycho neuroses* there is no formation of abnormal groupings of psychic elements or the construction of a new personality, but there is an unconscious normal activity, which functions in an exaggerated or perverted way. To feel every deterioration of organic or psychic life as pain (melancholia), or to have a sense of euphoria with greater motor activity (mania), is a deductive process analogous to what takes place in the normal state. In disease unconscious action in morbid conditions (exhaustion, intoxication) becomes exaggerated and perverse. Ordinary deductions become sophisms.

These states resemble strange vague feelings which we all have, a persistence of emotional states after cause is removed.

Psychic dissociation and automatous function of mental aggregates which normally are in reciprocal dependence, is at the bottom of many mental affections. They came on with exhaustion and debility. The abnormality of unconscious activity, with psychic disaggregation depends finally on all debilitating, degenerative, toxic and infective influence. He cites various cases of *folie du doute* illustrating unconscious activity.

THE PATHOLOGY OF GENERAL PARALYSIS.—F. Brazzola (Report of Progress, by Dr. H. R. Stedman, *Boston Medical and Surgical Journal*, July 7, 1892) describes elaborately and minutely a clinical case of general paralysis of the spinal type, giving fully in detail the gross and microscopic findings of the autopsy. The case was one with a

strong hereditary tendency to alcoholism, but without other nervous antecedents. There was possibly also some specific heredity and the patient himself was undoubtedly syphilitic.

The symptoms were, as stated, largely of spinal origin, though the characteristic paretic cerebral symptoms also were apparent. At the autopsy there were found lesions in nearly all portions of the nervous centers, meningitis and encephalitis, and sclerosis and degeneration of spinal cord, especially in the columns of Goll which were involved throughout their whole extent. The direct cerebellar, the columns of Burdack, the pyramidal columns and in the lumbar regions nearly all the sections of the cord were also involved. The peripheral nerves were also altered by a light neuritis and there was everywhere decided vascular alterations from which the mischief appeared to take its start. These consisted largely in an endarteritis which was probably of specific origin. In his discussion of the case the author dwells especially upon the part which the vascular changes played in the production of the alterations of the nervous system proper and is inclined to recognize a direct relation between the two.

He holds that the arteritis of dementia paralytica is in very many cases, at least, specific, and therefore there is a direct relation between syphilitic infection and paresis.

He does not, however, reduce all the etiology to this one cause, but holds that it is the predisposing condition. Other factors are necessary for the development of the disease and he recognizes the importance in this relation of heredity, vicious habits, over-work, etc., that may diminish the resisting power on the part of the nervous system. "Finally," he says, "as I have already done in other memoirs, I wish to insist on the relations which exist between progressive paresis and tabes. Without going into particulars, I hold that these two morbid species have the closest relations etiologically, clinically and anatomo-pathologically. The causes that lead to them are the same; clinically they grade into each other; there are true forms of passage from one to the other (such as the case I have described); in an anatomo-pathological point of view, especially since the latest works on tabes, the two forms approach each other more and more; and the different morbid syndromes depend solely upon the different localizations of the lesions and their different degrees of intensity."

NEUROTHERAPEUTICS.

THE EFFECTS OF SULFONAL IN ARRESTING THE CRAMPS OF FRACTURED LIMBS AND REFLEX SPASMS FROM OTHER CAUSES.—Dr. Edward Andrews, of Chicago, in a paper read before the Section of Surgery and Anatomy at the recent meeting of the American Medical Association, spoke in the highest terms of sulfonal as an antispasmodic.

The first case in which he had used the drug was one of painful cramps from a recently fractured femur. Morphine relieved the patient so long as he could keep awake, but as soon as he became drowsy the cramps returned. On changing to sulfonal in fifteen-grain doses, the spasms were completely arrested both when awake and asleep. On repeating this treatment in other cases of fracture, the same good result was invariably obtained.

The writer also cited other cases in which cramps, the result of injury, had been relieved by this drug. He also stated that he had tried it with success in hicough.—*Journal A. M. A.*

NEUROSURGERY.

THE RELATIONS OF PELVIC DISEASE TO PHYSICAL DISTURBANCES IN WOMEN.—Dr. George H. Rohe, of Catonsville, Md., read a paper on this subject at the fifth annual meeting of the American Association of Obstetricians and Gynecologists, at St. Louis, Mo., September 20-23, 1892, pointing out the frequency with which bodily conditions influenced mental states.

In a hospital containing 200 insane women twenty-six were found with evidence of pelvic diseases. In eighteen of these the uterine appendages were removed with the following results:

Sixteen recovered from the operation and two died. Of the sixteen recovered, three have been discharged from the hospital completely restored, both physically and mentally. In ten, considerable improvement followed the operation in both physical and mental conditions, and in three the operation was of too recent a date to allow any definite expression of opinion.

The mental disorder present in the eighteen cases

was melancholia in six cases, simple mania in one, puerperal mania in four, hysterical mania in one, periodic mania in two, hystero-epilepsy with mania in one, and epilepsy with mania in three.

The author basing his opinion upon his experience, concludes as follows :

"The facts recorded demonstrate, first, that there is a fruitful field for gynecological work among insane women ; second, that this work is as practicable and can be pursued with as much success in an insane hospital as elsewhere ; and third, that the results obtained not only encourage us to continue in the work, but require us, in the name of science and humanity to give to an insane woman the same chance of relief from disease of the ovaries and uterus that a sane woman has.

EDITORIAL.

[*The Editor is responsible for all Unsigned Editorial Matter.*]

Questions of the Code.—When a weather-beaten cruiser, after having been kept afloat beyond the ordinary life of crafts of its kind by watchful seamanship of skillful officers and faithful crew, finally puts into port for repairs, it is the custom to thoroughly overhaul and make her sea-worthy, remedying all defects discovered through sea-faring experience and even to remodeling her and supplying her, if she may be deemed fit to continue her career with safety on the high seas, with entirely new machinery.

At this juncture, when the old code, which, through the bolstering and fidelity of its friends, has served to mould together the profession of the United States, is to be revised by direction of the American Medical Association, it is important that the work should be done thoroughly and well. Thus only may its stability in the hearts of the medical profession and their future fidelity to it be assured. In every change it should be adapted to the present advanced state of medical science and to the intelligent common sense of mankind.

The chief subjects in the code to be revised are those of advertising, patents and consultations. These should be so plainly, unequivocally and liberally presented as to challenge the approbation of the best judgment of mankind and be in harmony with what humanity and science expect of a broad, liberal, advanced and advancing profession, the nearest of all professions in bestowal of the best fruits of science and philanthropy upon human kind.

The interdiction of patents by physicians is in derogation of the personal right of the doctor and tends to turn the genius of discovery away from medicine and surgery. All that philanthropy requires and all that the code should enjoin is, that no physician who becomes a patentee should put an exorbitant price on any invention designed to alleviate human suffering or remedy human deformity or natural defects, and that the construction of any apparatus,

or the composition of any patented remedy should not be kept secret from the profession.

The patenting of an apparatus or of a new remedy enables its manufacturer to be protected so that it may be profitably and cheaply made, and the true physician, while worthy of reward for his inventive genius, as well as his skill, will not put an inordinately high price on the product of his brain any more than the skilled specialist against whom the code does (though it might as justly) provide.

The unworthy physician who patents an article of professional value might be enjoined, on penalty of forfeiture of fellowship, from gratifying greed of gain at the expense of the patient's welfare, but not inhibited from securing the legitimate reward of his genius by mandatory code prohibition.

The provision of the code against patents has undoubtedly turned inventors away from medicine, for there is a pecuniary obligation on the part of the physician towards himself and his family, as well as a philanthropic duty to afflicted mankind. We should take care of our own, as well as of the people's interest, and yet the people's interest would be best subserved by encouraging medical genius to expend itself in the interests of the profession and of humanity by countenancing and protecting the worthy patentee of a useful instrument of relief or skill by giving such full fellowship on the broad basis of a liberal fraternity and philanthropy.

The Surgeons at Homestead.—

In the report of the punishment of Private Iams, at Homestead, as it appeared in the daily press, it seems that the Colonel ordered him triced up by the thumbs, and the surgeons to stand by and see that no harm befell him.

In executing this order the surgeons took turns at standing on a chair and counting the pulse of the man, and when it reached 120 ordered him to be cut down.

Nowhere can it be claimed that it is ever within the scope of their professional duties to be a party to brutality. Military medical officers are appointed as professional men, for the purpose of exercising their profession, and in the exercise of that profession they are not subject to the orders of the line officers. What medical man would carry out a line of treatment in a given case because ordered to do so by his superior officer in line? If the Colonel had ordered these medical men to cut off the leg of Private Iams, no doubt they would have refused, because it would have encroached upon their medical functions. By

what process of reasoning these surgeons determined that the Colonel's orders had been complied with when the unfortunate man's pulse reached 120, it is hard to see. Why did they not order him down when his pulse reached 100? Or, when it began to rise above normal? Or, better yet, why did they not let the Colonel himself decide when the punishment was complete, and then step in to extend relief so far as they could?

Suppose they had blundered, and let the man hang so long as to end his life, who would have been guilty of the murder, they or the Colonel? We care not what military law may be, it was the duty of these surgeons, as medical men, to refuse to carry out the orders of the Colonel, to tender their resignations on the spot if necessary, or even to suffer punishment for insubordination.

In their action, if it be correctly reported, the profession has been outraged.—*Journal Amer. Med. Association.*

The present trouble at Homestead has been prolific in producing unpleasant and painful spectacles; but it seems to us that there has been nothing so barbarous as the punishment inflicted upon the soldier who dared to give three cheers for the assassin of Mr. Frick. From a perusal of the account one would almost be led to the belief that the days of torture and thumb-screws had not passed away.

While we cannot sympathize with the sentiment of the man who desired to applaud attempted murder, much less can we sympathize with the brutality of tying a man up by the thumbs until he faints. Such barbarity should have no place in a civilized community, and the Colonel who ordered such punishment has disgraced his manhood and shown himself a bully and a tyrant. Further than this, we do not believe that legal justification for this act could be obtained from any right-minded judge.

The medical men figured in a very unenviable light in this affair, and the part they assumed is a degrading one for any member of our humane profession to undertake. We are sorry they allowed themselves to act as torturers to his majesty the Colonel of the regiment, and believe that a second sober thought will convince them that they allowed themselves to be made parties to a despicable and cruel punishment. Doctors, we cry shame upon you!—*Lancet-Critic.*

The preceding comments of our *confrères* of the medical press reflect, we think, the professional sentiment of the country upon this nineteenth century barbarism.

We hold that the time has passed in the history of civilization when undue cruelties for punishment of either military, civil or ecclesiastical insubordination to law will meet with popular approval. The rack, the thumb-screw and the State have been satiated. They have been relegated by a higher humanity to the limbo of oblivion.

The humanitarianism of our day had almost forgotten

the barbarities of the past until the late fiendish reminder at the Homestead camp recalled the cruelties of our ancestors in Church and State and camp and field.

Why did not the surgeons at Homestead have the courage to say to their commanding officer when the unrighteous and inhuman punishment was ordered, as Napoleon's surgeon, Baron Lawnny, said on a memorable occasion when a medical crime was commanded for a supposed military necessity, "Sire, I cannot do it!"

We hold it to be not only a moral outrage but a crime against nature which medical science condemns, to so shock the nervous system of a soldier by holding him up by the thumbs, for breach of discipline, that his pulse runs up to one hundred and twenty and fainting results. Such a shock does not always end with the duration of the punishment. There are far less barbarous and yet more effectual ways of promoting military discipline in garrison or on the tented field. We speak as one who was once himself a soldier and a medical officer in the army. "The summer soldier and the sunshine patriot" must have been in command at Homestead.

The brave and battle-scarred veteran would not have forgotten the golden rule. When the necessity arrived for enforcing discipline at Homestead in the case of Iams they would not have ordered the commission of a crime against nature and humanity in the name of duty, and the true military surgeon would not have been *particeps criminis* to so revolting a procedure.

The Deadly Policeman's Club and the Brutal Clubber.—Why does modern civilization permit policemen to strike on the head with their deadly clubs? The club of the policeman is a relic of the barbarous ages and the man who would use it violently except in the plainest self-defense of imperilled life is a barbarian brute even though he may have been taught to pray to the Holy Virgin and have St. Patrick for his patron Saint. There are Christian as well as heathen brutes.

Why should a policeman strike a fellow-man with such a deadly weapon on the head? A resisting prisoner is just as easily overcome by blows on the arms and the victim's future is not thereby imperilled. The risk of insanity and death are not great from a broken arm.

The damage done by the club is not fully known to the public because its victims belong to the defenseless

and friendless class, who go without sympathetic following to the public hospitals, asylums, and to Potter's Field, like poor big-headed Willie, or Hartnett, of St. Louis, now on trial in a distant city for murder done under the influence of insanity caused by a policeman's club on his head in St. Louis several years ago while drunk.

Many of the cases of insanity attributed to drunkenness in pauper asylums are the results of policemen's club violence on the head.

Is there no regulation prohibiting striking on the head? Is there no law on the subject? If not, there should be both without delay.

Aside from the humanitarian aspect of the subject taxpayers do not wish to have brain diseases and lunatics to be cared for at public expense, made through the brutal use of the club.

But humanity demands that the use of the club should be restricted. The club is brutal anyway. It makes both policeman and criminal brutal and the man who would use it on an unoffending prisoner or upon an offending or offensive one, about the head, except in case of the direct necessity of defending his own life, is "A wretch whom it were base flattery to call a coward."

Science, especially psychological science, and humanity protest against the brutalism of past ages. Let the club be abolished and the clubber suppressed.

Consultations.—The subject of consultations too needs marked revision and definition. On this matter our home contemporary the *Weekly Medical Review* thus remarks:

There are questions of more than passing interest, which this committee will be called upon to consider, and they are matters of the gravest importance, in some of which a great deal of outside pressure will be brought to bear. One rock upon which more have split than any other one and which has caused a partial secession already, is that in which the subject of consultation is involved. What it is which essentially constitutes a consultation has not been positively determined in latter days, for circumstances have changed matters so thoroughly and the irregular schools have so modified their methods of treatment, that many physicians consider consultations with such justifiable on this account. Again, those who are in favor of letting down the bars, say that if their services are desired and paid for it is not their business to inquire into the political, social or professional status of those asking for such services. This is especially the case with specialists who claim

that, as a matter of fact, they are not called into consultation, but are asked for advice and opinions, and they cannot very well see that they are doing wrong in furnishing that which they are pursuing as a matter of business and for the purpose of gaining a livelihood. On the other hand, the code as it now stands, is uncompromising in its restrictions.

The amended code should explain more definitely what a consultation is. It certainly is not simply meeting an irregular practitioner and learning from what he may have done for a particular case, or what he may have done for a patient or what he may know of his primary history, personal or family. Common sense and humanity both dictate that such information should be sought and obtained from the best and every available source; yet such common sense and humane action has been condemned as violation of the code, while the right judgment of mankind affirms it.

A consultation with an irregular should be defined in plain terms to be, what it really is, a conference with a view to joint treatment. This might be prohibited, as it would usually be impolitic and impractical, if we wish the code to be so proscriptive. The less, however, the amended code interferes with the personal liberty of action and private judgment of members of the profession (within the limits of propriety) the better for the profession.

This subject will be continued in the January number.

Can School Children Be Intellectually Over-tasked?—We translate for our readers the opinion held by Professor Charcot, of Paris, upon this important subject. It is a part of a clinical lecture recently delivered by him in that city:

I am not prepared to believe in the possibility of exacting and effecting excessive work with young pupils. In the higher technical schools I must admit the danger; but in the elementary and middle classes, up to a certain age and grade of instruction, it appears to me to be extremely improbable. I do not believe it practicable to overtax a child with study and instruction. It has too low a sense of responsibility. If you put to it a question, of the answer to which it knows nothing, it simply does not reply. I remember perfectly well how, as a child I behaved when something repugnant to my inclination was required of me. I simply did not do the thing demanded, but something else. At an appropriate age one may certainly be intellectually overburdened, but it is not in the age of childhood. It has been the very rarest of my experience to encounter neurasthenia in children. I do not, of course,

now speak of that species of overtaxation which takes place in unhealthy and overcrowded rooms, where bad ventilation produces *ennui* and engenders disease. I mean purely intellectual overtaxing; and I do not believe that this occurs in children.

Only when children reach the age of fifteen or seventeen years, and begin to undergo serious examinations in their school work, can any talk be made of overtasking. Nor must we then confound with the latter condition a disease which I have termed *cephalæa adolescentium*. Children who suffer from this disease are afflicted with unceasing headache and study becomes absolutely impossible. Neurasthenics experience abatement and pause in their headaches, whereas in the disease which I have named there are no remissions. The sufferers usually belong to nervous or arthritic families. They complain of palpitation of the heart and latterly hypertrophy of this organ has been established in such adolescents. But the morbid state of which I speak has no connection whatever with overburdening at school. Nor must we fancy that it can be dispelled by rest or ordinary therapeutic means. It is extremely obstinate and successfully resists all medical treatment. I advise you to subject such patients to the rudest kind of physical labor. If they have reached the appropriate age for military duty I counsel you not to discourage them from service under the flag. On the contrary, urge their parents to force them into it. I have known boys who suffered from *cephalæa adolescentium* to such an extent as to be incapable of all reading and study, not only to render efficient service as cavalry soldiers or dragoons, but thereby to experience the most gratifying recovery. I once told a father that his son would get well of this trouble by exposure to rude physical work. I lost both father and son from sight; but a year later the former wrote me, "I have good news to give you of my son." He had sent the tender youth to a fisherman at Arcachon, to accompany and assist the latter in his rough and strenuous employment. He pursued it seven or eight months and thereby surmounted his disease utterly and permanently. The cold water cure has also been successfully applied to the removal of these headaches of adolescents, but the cure is of much longer duration. The surest process consists in removal from all former surroundings and habits, and in subjection to gross physical labor. The military service, is, in my judgment pre-eminently helpful. I would remark that I have [seldom or never met this disease among children of the working classes.

W. W.

The American International Medico-Legal Congress of Medical Jurisprudence for 1893 will hold its next session in June, July, or August of 1893, if the necessary arrangements can be made, in the city of Chicago. Due notice of the four days selected and the place to be given hereafter.

A committee will formulate and announce the order

of the proceedings, the subjects to be discussed, the arrangement and classification of the papers to be read.

The following scientists have already engaged to contribute papers for the Congress :

Dr. Daniel Clark, Superintendent of the Insane Hospital at Toronto, Ontario: "Legal and Medical Definitions in Respect to Insanity and Responsibility."

Dr. S. V. Clevinger, of Chicago, Ill.: "Testamentary Capacity."

Dr. Charles H. Hughes, editor of the *ALIENIST AND NEUROLOGIST*, St. Louis, Mo.: "Change of Character, still without Adequate External Cause the best general Criterion of Determining Insanity."

Prof. Dr. H. Kornfeld, the eminent alienist, of Grotkau, Silesia: "Love and Insanity."

Prof. Dr. Kovalewsky, Dean of the University of Kharkoff, Russia: "L'Epilepsie Psychique en Medicine Legale."

Dr. Thomas Morton, of the State Lunacy Commission of Pennsylvania, of Philadelphia: "The Operation of the Lunacy Laws of Pennsylvania."

Dr. Frank P. Norbury, assistant physician Pennsylvania State Hospital for the Insane, at Danville, Pa.: "The Medico-Legal Consideration of Insanity following Traumatism."

Ex-Judge Abram H. Daily, "Hypnotism in Medical Jurisprudence."

The following members of the Congress have consented to read papers, the titles of which will be hereafter announced :

Prof. Benedikt, of Austria; Clark Bell, Esq., of New York; Milton Brown, Esq., of Kansas; Moritz Ellinger, Esq., of New York; Prof. Marshall D. Ewell, of Illinois; T. Gold Frost, Esq., of Minnesota; R. S. Guernsey, Esq., of New York; Frank H. Ingram, M. D., of New York; Henry Lefman, M. D., of Philadelphia, Pa.; Prof. Mierzejewsky, of St. Petersburg, Russia; Dwight S. Moore, M. D., of North Dakota; Jules Morel, M. D., of Ghent, Belgium; J. Edward Potter, M. D., of New Jersey; Prof. John J. Reese, of Pennsylvania; A. Wood Renton, of London, England; Judge H. M. Somerville, of Alabama; Edward Payson Thwing, M. D., of New York.

The enrolling fee will be \$3, which will entitle the sender to the Bulletin of the Congress free.

Members of the Congress who receive this circular who have not sent the enrolling fee, will please remit the same, to the President or Secretary, to aid in defraying the preliminary expenditures.

This circular will be sent to some whom the President is unable to address personally. Those who contribute papers or unite with the Congress will communicate with the undersigned, and forward their names and addresses.

CLARK BELL, President.

MORITZ ELLINGER, Secretary.

The American Anthropometric Society.—The American Anthropometric Society was founded at Philadelphia, February 7th, 1891, by a number of gentlemen who were called together, at the suggestion of Dr. William Pepper, Provost of the University of Pennsylvania. On July 18th of the same year a charter was granted the society under the laws of the State of Pennsylvania.

It was designed to establish a society through the agencies of which the study of the human brain should be placed upon a satisfactory scientific basis. Cerebral topography is in many respects incomplete; brains of low, if not degenerate, type have furnished, for the most part, the results which have thus far been obtained. It is evident that this is not desirable. Our knowledge should be drawn from sources which indicate, so far as it is possible so to do, the peculiarities of brain structure of all classes of society. It is comparatively easy to secure the brains of criminals and those who have been inmates of city hospitals, but to obtain brains of a higher expression of cerebral structure, and to study such with the aid of complete histories, is more difficult. To meet and overcome these difficulties this society has been organized and appeals to the educated classes for assistance.

Researches which might be of the utmost value are crippled and their usefulness to humanity impaired, because they are limited to the lower classes of society. The class to whom benefit would accrue, especially in successive generations, is debarred by the infrequent opportunity of making studies, as well as by the want of plans for the systematic preservation of records.

It is evident that the scope of the American Anthropometric Society is a broad one, as cerebral development

is closely correlated with skeletal and muscular peculiarities, as well as with psychic capacities.

The late Joseph Leidy was the first president of the society, and was greatly interested in its success.

At the present time Harrison Allen, M. D., of Philadelphia, Pa., is President; Abraham Jacobi, M. D., of New York, N. Y., is Vice-President; Prof. Rudolf Virchow, of Berlin, is Honorary Vice-President for Europe; D. J. Cunningham, M. D., of Dublin, is Honorary Vice-President for Great Britain. The Permanent Secretary is William Pepper, M. D., of Philadelphia, Pa.

Hypnotic Suggestion.—A leading medical journal of Hungary (*Orv Hetilap*) lately interrogated the principal Continental neurologists concerning their scepticism or faith in hypnotic suggestion. A recent number of this enterprising publication contains the replies received by its editor:

Charcot (Paris) identifies himself with the opinions defended by his former pupil, Pitres, and believes that therapeutical suggestion in the hypnotic state is of value only in a minimum number of nervous diseases, notably hysteria. Pitres (Bordeaux) transmits his monograph "L'hysterie et l'hypnotisme," containing an elaborate exposition of his views and adds that there is nothing wonderful in hypnotism, and that it constitutes but a subordinate chapter in modern neuropathology. Lombroso (Turin) touches only the forensic side of the question and doubts if any hypnotized patient can be made to commit a crime before which his better nature revolts. A bad subject, on the other hand, can be induced to undertake only evil acts and will tell the most audacious lies under subsequent cross-examination. Lombroso thinks it probable, however, that a repeatedly hypnotized person may, finally, by gradual obtunding of the moral sense and weakening of the will-power, be led to perform criminal acts at first impossible to him. Grashey (Munich) expresses his opinion that persons who can be tempted to commit criminal offenses under hypnotic suggestion should be held to accountability and suffer appropriate punishment, like any other law breakers. Benedikt (Vienna) characterizes the so-called hypnotic suggestion as a colossal humbug. Hitzig (Halle) utterly denies that any healing power can be exercised through hypnotic suggestion in organic diseases. Moebius (Leipzig) believes that certain predisposed individuals have indeed committed flagrant crimes under hypnotic suggestion, but denounces as sheer nonsense the alleged sacrifice of will-power. Binswanger (Jena) thinks that only viciously and pathologically affected persons can be made criminal tools by hypnotizers. He says that the therapeutic field covered by hypnotism is limited to a few symptoms in diseases of the nerves, and that even these cannot be permanently relieved by its slender agency.

W. W.

The Mississippi Valley Medical Association held its Eighteenth Annual Session at Cincinnati, Wednesday, Thursday and Friday, October 12, 13 and 14, 1892. The programme was a valuable one, containing many of the most prominent names in the profession our country affords. It covered every department in medicine. The attendance was unusually large, as Cincinnati is the center of population of the United States. Not only the scientific, but also the social part of the meeting was of the highest order. The interest of the Convention was augmented by the meeting of the gentlemen interested in the Pan-American Medical Congress, also other bodies of medical men. Dr. Hunter McGuire, Richmond, Va., President of the American Medical Association, was expected but failed to appear and deliver the Annual Address on Surgery; Dr. Hobart Amory Hare, professor of Materia Medica, Jefferson Medical College, Philadelphia, delivered the Address on Medicine. Papers were read by Drs. Reed, Rickets, Hall, Dowling, Ayres, Connor, Ransohoff, Dandridge, Comegys, Whittaker, Zenner, Zinke, Cincinnati; Cook, Woodburn, Thompson, Indianapolis; Owen, Walker, Evansville; Lydston, Moyer, Belfield, Chicago; Mathews, Wathen, Larrabee, Reynolds, Louisville; Savage, Nashville; McGahan, Chattanooga; Dixon, Henderson; Hughes, Love, Loeb, Dalton, Boerck, Bond, Hulbert, McIntyre, St. Louis; Lamphear, Kansas City; Smith, Montreal; Sutton, Murdock, Daly, Pittsburg; Early, Ridgeway, Potter, Buffalo; Baker, Cleveland, Thorn, Toledo; Walker, Detroit; Baldwin, Columbus; Bond, Richmond. Dr. C. A. Reed, of Cincinnati, presided with becoming dignity and ability, and the visiting members expressed themselves well pleased with their social reception in the Queen City,

Professor Lombroso and Spiritualism.—We cull from a recent Italian daily journal the following alleged experience of this distinguished neurologist with the notorious Eusapia Paladino. Such parts of the reporter's statement as involve Prof. Lombroso and are worthy of belief, might perhaps better be attributed to the astute professor's efforts scientifically to expose a fraud, than to further bolster a disgraced medium, who has repeatedly been sentenced by Italian magistrates for obtaining money under false pretences by her exhibitions:

Prof. Lombroso conducts a spiritualistic *seance* given by Eusapia, in a private circle of Milan, at which also Gerosa, Brofferio and Chiapparelli,

professors in the high schools of that city, were active participators. The sitting lasted three hours, and the tests of the wonderful power, or skill, possessed by this medium were made alternately in the dark and in the lamplight. Eusapia was not bound, but was held by two of the professors (*sic*). The usual spiritualistic phenomena were profusely manifested, such as the general displacement of articles of furniture and, finally, the migration to the top of a large table of all the vacant chairs in its vicinity. The din of the moving furniture and of the loud clapping in the upper air of pretended spiritual hands was frightful to all but initiated believers. The latter (of which this learned audience appeared to be mainly composed) persuaded Prof. Lombroso to promise further *seances* with the aid of his medium. Chiapparelli, apparently the most sceptical of the professors present, declared at the conclusion of the *seance*, that spiritualistic phenomena, especially when produced under such rigid and intelligent supervision and conditions, should no longer be condemned *a priori*. Prof. Lombroso intends soon to publish a book embodying his psychological experiences with Eusapia (*sic*).

W. W.

Mental and Physical Therapeutics in Persia.
—From a letter written by a Russian physician who spent several months in the dominions of the Shah, published in the *Berliner Gerichts-Zeitung*, of September 13th, 1892, we translate the following details:

Persian medical and surgical art rests almost wholly in the hands of the clergy and the barbers. The clergy possess the right of administering to both mental and physical ailments, while the barbers may treat only diseases and injuries of the body. The therapeutic means employed by the priests consist mainly in prayers addressed to God, to the Saints, or to the Prophets, and in anathemas fulminated to exorcise evil spirits. The last-named predominates in diseases of the mind. The barber employs only material agencies, namely, the razor, leeches, and such plants as his oriental fancy leads him to select as curative. He makes no distinction of diseases in the application of the remedies. To him the indications of treatment are the same in whooping-cough, croup, diphtheria, dropsy, cholera and pneumonia. At the very first sight of the patient he usually declares the latter to be possessed of a devil and promptly sets on foot the treatment. He almost invariably shaves the head, and cuts deeply several cabalistic characters in the scalp, from which he unconcernedly lets the blood flow. Should the patient die of the resulting hemorrhage, the faithful barber closes the eyes of the unfortunate, with the words: "God has so willed it." Contrary to civilized usage, the professional attendant receives an honorarium only if the patient gets well. Deafness is always treated by injecting toad's blood or onion juice into the ears. If the infirmity fails to be removed thereby, the case is pronounced hopeless.

W. W.

Professor Förster and Realistic Literature.—Professor Wilhelm Förster, Rector of the University of Berlin and Director of the Royal Observatory, has recently published in the monthly periodical *Himmel und Erde*, his reflections upon the so-called modern realistic literature. When divested of the favorite involved German pillbox-nest sentences of this distinguished author and scientist, his criticisms read in brief as follows:

All attempted representations by lay writers of the repulsive acts of revenge, of the disgusting displays of passion and of the frightful conflicts, which constitute scenes in every-day life, must affect human culture and social development unfavorably. The writers inevitably exaggerate and distort the reality of events which they vainly strive to reproduce with naturalness attainable only to the eye-witness. Success in this species of description is but imperfectly achieved even by scientific writers, who apply to their task all the accessories of accurate training, logical investigation and the impartial weighing of evidence.

But, says Prof. Förster, it is not the less our duty to humanity to keep our eyes open to the most unwished for occurrences, if they but be within the pale of our personal experience or rest on an unimpeachable basis of fact, and to face with courage the most repulsive and disheartening social phenomena. But let not our vision rest, nor our emotions sicken, in contemplation of the morbid pen-pictures of the modern romance writers.

W. W.

Reform in Asylum Management.—F. C. H., under the caption "A New Departure," thus remarks, in the *Medical Fortnightly* for August:

The Board of Managers of the State Insane Asylum, at Fulton, Mo., deserves great credit for departing from an old and time-honored custom in the selection of a superintendent. Up to the time of Dr. Atwood's appointment the qualifications of a candidate for the superintendency of a Missouri asylum were that he must have a good political pull and be without experience in asylum work.

Experience, instead of being deemed necessary, was rather disqualifying than otherwise, and the fact that a man had served on the staff of an asylum debarred him from being a superintendent. So far as it is possible to ascertain, the recent election of Dr. Wilson, lately an assistant physician, to the superintendency of the Fulton Asylum, is the first instance in the history of Missouri in which an assistant physician has been elected superintendent and the second time a physician of previous asylum experience has been likewise honored. It is hoped that the precedent so established will be followed by all our State institutions, and

the assistant physicians of the State may then realize what has been heretofore but a mirage in the desert—the appreciation of years of service and the substantial reward of merit.

All of which we cordially endorse.

What has Become of the Medicines of the *Materia Medica*?—In looking over many of the Medical Mirrors of therapeutics of the day we see nothing of the familiar names of the pharmacopœia, but in their stead numberless newly-coined proprietary terms, such as phenacetine, sulphonal, hypnal, antikamnia, petroline, tasso-petroline, antisaron, therapine, exalgine, catalgine, tong-aline, listerine, antipyrine, papine, neuraline, bromopyrine, and numberless *antis* and *ines*, febrina, cactina, sal lister, kumysgen, proteinol, ponca, bromidia, katharmon, chionia, europen, aristol, dermatol, benzothol, vin mariana, apioline-chapouteaut, febricide, tritica, bovine, papoid, iodotane, santal-midy, sanmetto, salophen, ergotole, svapnia, iodia, dio viburnia, lithiated hydrangea, "*et id omne*." "What's in a name?" There's money in it. "What are we coming to?" "Heaven only knows."

The American Neurological Association took a step in the right direction when it adopted the following resolution:

It is the unanimous sense of the American Neurological Association that the proper care of the epileptic class, so long delayed, be urged upon the public, upon State authorities and especially upon all interested in the care of the sick and defective poor, whereby they may be relieved from asylums and almshouses and may receive the required care in such separate establishments as their deplorable situation demands.—*Medical Standard*.

It might have gone further and recommended life-long sequestration of the pauper class and taken on the criminals.

Dr. Sajous' Annual.—We are glad to learn that the excellent *Annual of the Universal Medical Sciences*, edited by Dr. Charles E. Sajous, of Philadelphia, continues to receive the substantial support of the profession. We learn that it is Dr. Sajous's intention to bring out soon an edition in the French language, which cannot fail to enlarge the number of its readers decidedly.

The Death of Dr. John J. Reese, of Philadelphia, formerly professor of Medical Jurisprudence in the University of Pennsylvania, occurred on Sept. 4, 1892.

Dr. Reese was the author of a manual of toxicology and also edited the seventh edition of "Taylor's Medical Jurisprudence." At the time of his death he was in his seventy-fifth year.

The Eminent Alienist, Dr. Snell, director of the Hildersheim Asylum, near Hanover, died on the 12th ult., aged seventy-four. He was the first in Germany to use agriculture as an element in the treatment of insanity. He is succeeded by his assistant, Dr. Gerstenberg.—*Medical Review*.

Back Numbers Wanted.—The following numbers of the ALIENIST AND NEUROLOGIST are wanted: January, 1881; January, 1883; April, 1889; April, 1890. Address: ALIENIST AND NEUROLOGIST, 500 North Jefferson Avenue, St. Louis.

Dr. Eskridge has removed from rooms 25 and 26, Barth block, to rooms 202, 203 and 204, Equitable Building, 17th and Stout streets, Denver, Col.

Medical Students in Great Britain who matriculate after October 1st, 1892, will be compelled to pursue a five years' course of study.

Prof. J. M. DaCosta has withdrawn from all teaching connection with the Jefferson Medical College, of Philadelphia.

Dr. L. H. Prince, of Bellevue Place, Batavia, is now *en route* to Europe in the interest of professional observation and study.

Peter Bryce, M. D., Superintendent Alabama Insane Hospital, died August 14th, 1892.

Prof. Virchow has recently been elected Rector of the University of Berlin for 1892-93.

CORRESPONDENCE.

[DR. FERGUSON'S PAPER IN ALIENIST AND NEUROLOGIST.]

TO THE EDITOR OF THE ALIENIST AND NEUROLOGIST :

Sir.—Dr. Ferguson's valuable paper, published in the last issue of the ALIENIST AND NEUROLOGIST is very instructive and interesting. It is, so far as I am aware, the most complete presentation of the subject of insanity, following exhaustion, disease and injury extant.

Within the last few years quite a number of isolated cases have been recorded where insanity has followed or complicated fevers and other diseases, injuries, surgical operations or great exhaustion. Some of the writers have been much puzzled and surprised at the outbreak of insanity in this way. Yet it seems to me that if we bear in mind that great fundamental law so well enunciated by Mercier, that *every* case of insanity is brought about by the two variable factors of *heredity* and *stress*, we ought not to greatly marvel. In every individual there is more or less mental instability resulting from inheritance. This varies from an inappreciable degree up to a very high degree. In the vast majority of people it is little or not at all recognized. Stress is any influence which disturbs the normal mental equilibrium. It may be a disease in the brain or in any other part of the body—for a disease in any part of the body produces its impression upon the brain. Or it may be outward circumstances (worry, anxiety, fright, etc.) which, through the sense organs, abnormally agitate the brain. Now if this law be true, it follows that in any given case where the hereditary taint is inconsiderable, great stress will be required to produce insanity. Conversely, where the mental instability is great, little stress will be required to bring about insanity.

Following out this line of reasoning, I would venture the opinion that had the inherited mental condition in all the cases which Dr. Ferguson has collected been of the best, many of them would not have become insane from

the stress to which they were subjected. Take, for example, the six cases reported by Werth (quoted by Dr. Ferguson), in which insanity followed such a slight stress as a gynecological operation. Certainly it must be true, as held by most of the members of the German Gynecological Society who discussed Werth's report, that there was, in all these cases, a strong predisposition to insanity. Here it would seem that fright, anxiety and shock were the three chief forms of stress which brought about the insanity. Now take a case of insanity which comes on during convalescence from a severe attack of typhoid fever. Here the chief forms of stress would seem to be exhaustion, malnutrition and toxæmia; and the sum total of the stress would be very much greater than in a case where a slight surgical operation was the determining cause of insanity.

It therefore follows that the pathology of one of these cases could, by no means, be made to fit all the rest. I must agree with Dr. Ferguson, who takes issue with Prof. H. C. Wood, when he (Dr. F.) says "With all who claim any special pathology, I at once take issue."

But among the causes which operate in producing these insanities may be mentioned exhaustion, malnutrition, toxæmia, fright, anxiety and worry, *plus* (in all cases) more or less inherited mental instability.

The nature of the insanity is determined by the character of the two factors (heredity and stress) by which it is brought about. Respectfully yours,

THEODORE DILLER.

Pittsburg, September 1, 1892.

HOSPITAL NOTES.

ANNUAL REPORT OF THE DEPARTMENT FOR THE INSANE OF THE PENNSYLVANIA HOSPITAL; FOR THE YEAR ENDING APRIL 20, 1892: 172 patients were admitted during the year and 159 discharged, leaving in the hospital 440 as against 427 patients at same time last year; 50 recovered, 35 improved and 38 died. Of the 50 patients who recovered, 24 were residents not longer than three months; 12 cases of alcohol or opium habit were admitted during the year, but do not appear in the table of "Results." The mortality has been great during the year owing, in fact, to the epidemic of influenza.

Looking at the question of "*grippe*" as a causative factor in producing insanity, Dr. Chapin observes that during the prevalence of the epidemic, although a large number of persons were attacked, yet the hospitals for the insane show no material or alarming increase of admissions. He concludes that it is not probable that insanity can arise directly from zymotic influences, yet he admits that it may, by lowering bodily tone or vital force, prove an indirect predisposing cause.

New wards for women, capable of accommodating forty-one patients, were constructed during the past year.

A Hospital farm in Delaware County is used by some of the patients during the summer months. Dr. Chapin speaks highly (but not too highly in our opinion) of the effects of easy, natural country life on some patients, stating that the country life marked the beginning of convalescence in several cases. We earnestly trust that this feature of the great Kirkbride Hospital may be enlarged and amplified. To the following question which Dr. Chapin asks, we feel confident in answering, "They should not:" "In view of the advances that have been made in the care of the insane, and that plans for hospitals are now in a transitory and unsettled stage, why should they differ materially in their outward appearance or in their interior comforts from the homes from which so many of our patients come?"

We believe Dr. Chapin's answer would be the same.

With the great advance of to-day in hospital construction, it seems likely that the fate of the huge "Institutional" building is sealed. What resemblance to home is there in a four-story building a square in length?

Dr. Chapin makes some sensible observations on the Lunacy Laws, in which he justly condemns the cumbersome and indelicate jury system of Illinois.

An out-patient department in the city of Philadelphia has been maintained during the year, at which the physicians attend twice weekly. Much good has been done in this way.

Dr. Brush resigned the position of Senior Assistant last July to accept the position of Superintendent of the Sheperd Asylum, near Baltimore. Dr. A. R. Moulton succeeded him.

A number of beautiful full-page cuts are introduced at intervals throughout the report. These we think should have been placed all together at the back or front of the report. Altogether we congratulate Dr. Chapin on the work of the year.

T. D.

REVIEWS, BOOK NOTICES, ETC.

LA REVISTA MEDICO-QUIRURGICA AMERICANA. The only strictly Ethical Spanish Journal of Medicine and the Allied Sciences published in the United States, with a circulation exclusively among physicians, surgeons, dentists, druggists, pharmacists, hospitals, asylums, etc., throughout the following countries: Argentine Republic, Bolivia, Brazil, Chili, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela, Costa Rica, Guatemala, Honduras, Nicaragua, Salvador, Cuba, Curacao, Hayti, Jamaica, Puerto Rico, San Domingo, St. Thomas, Trinidad, Mexico, Portugal, Philippine Islands, Canary Islands, Spain, Spanish Colonies in Africa, is on our table.

Its editors are: Samuel E. Milliken, M. D., Lecturer on Surgery at the New York Polyclinic School and Hospital; Member of the New York State and American Medical Associations; and Pedro J. Salicrup, M. D., Ex-Member of the Royal Sub-Delegation of Medicine and Surgery, and Board of Health, San Juan, Puerto Rico; Physician to the Northern Dispensary; Member of New York County Medical Association, etc.

Its collaborators are: Prof. Lewis A. Sayre, M. D., New York; Prof. John H. Ripley, M. D., New York; Prof. David Webster, M. D., New York; Prof. V. P. Gibney, M. D., New York; Dr. H. O. Marcy, Boston, Mass.; Dr. Joseph Price, Philadelphia, Pa.; Lieut.-Col. George M. Sternberg, Deputy Surgeon-General U. S. Army; Prof. John A. Wyeth, M. D., New York; Dr. Allan McLane Hamilton, New York; Prof. William T. Bull, M. D., New York; Prof. Henry G. Piffard, M. D., New York; Prof. Edward A. Ayres, M. D., New York; Albert L. Gibson, Medical Director U. S. Navy; Prof. Charles A. L. Reed, M. D., Cincinnati, O.; Prof. N. S. Davis, M. D., Chicago, Ill.; Dr. John Ridlon, Chicago, Ill.; Prof. Nicholas Senn, Chicago, Ill.; Prof. J. D. Griffith, M. D., Kansas City, Mo.; Prof. H. Marion Sims, M. D., New York, and others.

It is published by J. Shepherd Clark Co., Offices: 10, 10½, 11 and 12—126 Liberty street, N. Y., proprietors of *El Comercio*, established 1875, to whom all business correspondence should be addressed.

The publishers, who were the founders, publishers and proprietors for nearly eighteen years, of the Spanish Scientific and Technical newspaper *El Comercio*, the oldest Spanish paper in the United States, having met with the most flattering success in making that journal of unsurpassed popularity, both with its readers in Spanish-America on the one hand and its numerous advertisers in this country on the other, and

having from their long experience with Spanish-speaking countries a full knowledge of the ground they at present cover, after extensive and careful preparation, they have undertaken.

La Revista Medico-Quirurgica Americana is the Spanish official organ in the United States of the "Pan-American Medical Congress." This Congress, which will be composed of a very large number of distinguished representatives of the Medical, Dental and Pharmaceutical Professions from the republics of South and Central America, Mexico, the West Indies, etc., will convene in Washington, D. C., Sept. 5th, 1893, and there be in session for a sufficient period to discuss the important matters to be brought before it.

The assembling of this intelligent body of representative professional men from our neighboring countries will, from its nature, be one of the most important and far-reaching events that has ever occurred in the medical history of the United States, and will serve not only to bring the "profession" of all the countries represented into closer and more friendly relations, but also to acquaint, through their representatives, the people of all Spanish America with the medical progress of the United States.

The publication of *La Revista Medico-Quirurgica* is begun some time in advance of the meeting of the Pan-American Medical Congress that the medical and allied professions of Spanish-America, etc., may be kept regularly informed, through a paper published in their own language, of the proceedings, etc., of all preliminary meetings of the Congress prior to its final grand assembly in Sept., 1893. Its columns will also be officially used as the medium for distributing throughout the Spanish-speaking countries all regular announcements made by the heads of the various committees, etc., and for disseminating information regarding the Congress.

The Pan-American Medical Congress, occurring as it does during the World's Columbian Exposition, lends additional interest to both events, insures a largely increased attendance at the Congress, and also causes such of the profession and trade of Spanish-America as cannot visit this country to nevertheless take a lively interest in our affairs.

Advertisers of medical preparations, surgical and dental instruments and appliances, drugs and druggists' sundries, dietetic preparations, toilet articles, and in fact all regular articles useful and advantageous in the practice of medicine and allied professions, or handled by the druggist or pharmacist, as toilet or sanitary articles, etc., must see at once the great advantage of having their goods made thoroughly known through a reliable channel prior to the World's Columbian Exposition and the meeting of the Pan-American Medical Congress in 1893.

We have received Vol. I., No. 6, of the *National Medical Review*, edited and published by Dr. Chas. H. Stowell, Washington, D. C. This is the first number that has come to our notice and we gladly place it on our exchange list. It is a spicy and newsy epitome of the medical news of the day.

Annual Lectures Delivered Before the Alumni Association of the College of Physicians and Surgeons of Baltimore, April 11th and 12th, 1892. By Dr. W. H. B. Davis.

Report on Abdominal and Pelvic Surgery, Including Thirty-two Successful Cases of Laparotomy. By William H. Wathen, M. D., Louisville, Ky.

Early Symptoms of Hip Disease and *Ætiology* of Hip Disease.—Treatment of Abscess in Hip Disease. By H. Augustus Wilson, M. D.

The Extent of the Visual Cortex in Man, as Deducted From the Study of Laura Bridgman's Brain. By Henry H. Donaldson, Ph. D.

A Case of Abscess of the Temporo-Sphenoidal Lobe, and of the Middle Lobe of the Cerebellum. By Frank P. Norbury, M. D.

The Influence of Parturient Lesions of the Uterus and Vagina in the Causation of Puerperal Insanity. By George H. Rohé, M. D.

Excision of Tubercular Knee-joint; a Case of Incipient Hip-joint Disease. By H. Augustus Wilson, M. D., Philadelphia, Pa.

The Paralyzes in Children Which Occur During and After Infectious Diseases. By M. Imogene Bassette, M. D.

The Uses of Fever.—The Dangers of Antipyretics in Typhoid Fever. By J. H. Musser, M. D., Philadelphia, Pa.

Gynecic Notes Taken Among the American Indians, Parts I. and II. By A. B. Holder, M. D., Memphis, Tenn.

Sulphide of Calcium, or Calx Sulphurate, in Tonsillitis. By Frank P. Norbury, M. D., Jacksonville, Ill.

Some Contributions to the Study of the Muscular Sense. By George J. Preston, M. D., Baltimore, Md.

The Sensory-Motor Functions of the Brain. By L. Harrison Mettler, A. M., M. D., Chicago, Ill.

Relations of Pulmonary Phthisis to Rectal Fistula. By Leon Straus, M. D., St. Louis, Mo.

Whooping-Cough; Its Management; Its Climatic Treatment. By J. H. Musser, M. D.

Outline of a Plan for an Epileptic Colony. By Frederick Peterson, M. D., New York.

Practical Cerebral Localization. By Frank Parsons Norbury, M. D., Jacksonville, Ill.

Progress in the Care and Colonization of Epileptics. By Frederick Peterson, M. D.

On the Gastric Disorders of Pulmonary Tuberculosis. By J. H. Musser, M. D.

Hepatic Abscess. Report of a case, with remarks upon the Amœba Coll. By William A. Edwards, M. D., and James Sears Waterman, M. D., San Diego, California.

Thirty-two Unselected Abdominal Sections. By Thomas Ople, M. D., Baltimore, Md.

On the Reflex Theory in Nervous Disease. By L. Bremer, M. D., St. Louis, Mo.

A Plea for Special State Provision for Epileptics. By Theodore Diller, M. D.

A Plea for the Medical Expert. By L. Harrison Mettler, A. M., M. D., Chicago, Ill.

The Limitations and the Powers of Therapeutics. By J. H. Musser, M. D.

Blood and Blood Stains in Medical Jurisprudence. By Clark Bell.

Wintering in Egypt. By Frederick Peterson, M. D., New York.

Grave Forms of Purpura Hemorrhagica. By J. H. Musser, M. D.

Some Clinical Remarks on Dysentery. By J. H. Musser, M. D.

Tuberculous Ulcer of the Stomach. By J. H. Musser, M. D.

The Treatment of Epilepsy. By Frederick Peterson, M. D.

Habitual Abortion. By E. S. McKee, M. D., Cincinnati, O.

Athetosis Bilateralis. By Frank P. Norbury, M. D.

Index Catalogue, Surgeon-General's office.

Two Cases of Conservative Surgery. By F. Robert Zeit, M. D., of Medford, Wis.

Embolism of the Left Coronary Artery; Sudden Death. By Ludvig Hektoen, M. D., Chicago.

Recent Progress in Diseases of the Brain and Nervous System. By F. Robert Zeit, M. D., of Medford, Wis.

Danger from the Popular Misuse of Quinine (from *Science*). By W. Thornton Parker, M. D., New York.

The Therapeutical Effect of Antikamnia. By Hugo Engel, A. M., M. D.

Tuberculin and the Living Cell; an Inquiry as to How the One Aids the Other in the Fight Against Tuberculosis. By Charles Denison, A. M., M. D., Denver.

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A Dictionary of Psychological Medicine, giving the Definition, Etymology and Synonyms of the Terms used in Medical Psychology, with the Symptoms, Treatment, and Pathology of Insanity, and the Law of Lunacy in Great Britain and Ireland. Edited by D. Hack Tuke, M. D., LL. D., Examiner in Mental Physiology in the University of London, etc. Vol. I. Pages 15 to 722. Vol. II. Pages 723 to 1477. Philadelphia: P. Blakiston, Son & Co. 1892. [Price, \$18.]

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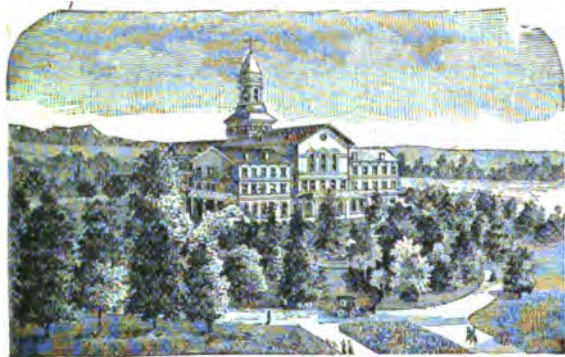
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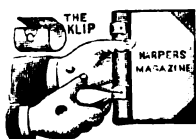
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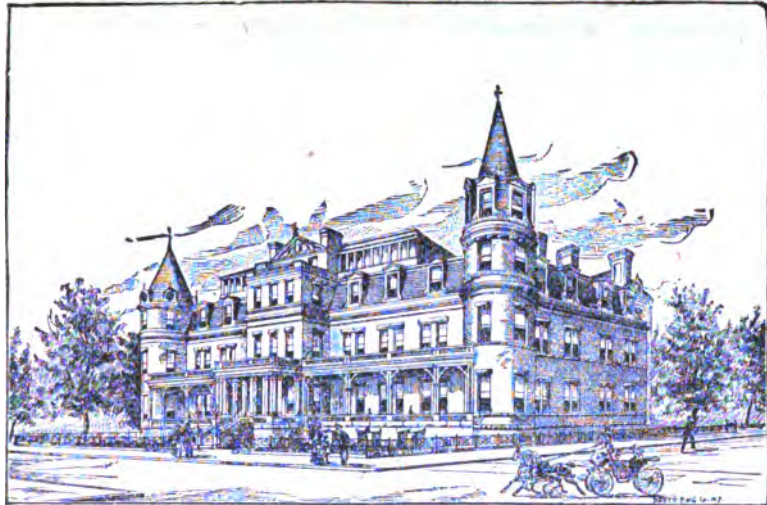


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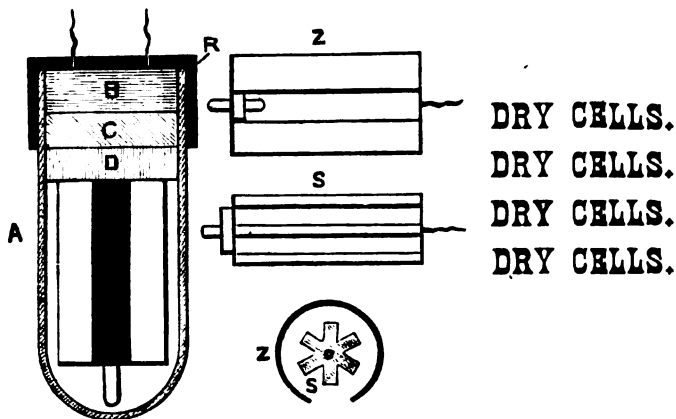
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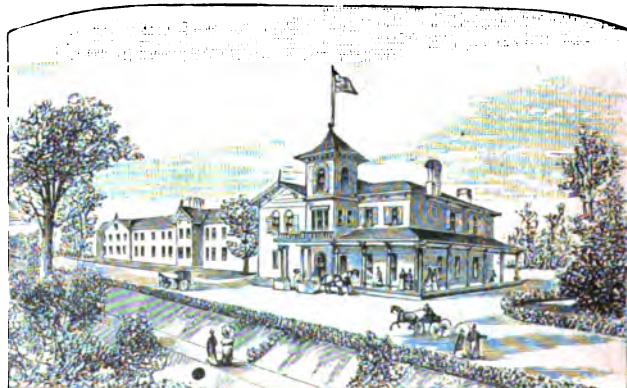
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